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BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.
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The

Voyage of Nearchus.

from the

Indus to the Euphrates

Collected from the

Original Journal Preserved by Arrian

And

Illustrated by Authorities

Ancient and Modern

Containing

An Account of the First Navigation

attempted

by Europeans in the Indian Ocean.

By William Vincent. D.D.

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PREFACE.

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IT is the privilege of an Author to avail himſelf of a Preface, in order to announce his deſign, to acknowledge obligations, and to anticipate objections.

I. On the firſt head, however, I ſhall be ſilent, the Work muſt ſpeak for itſelf; and in the expreſſion of my gratitude I ſhall confine myſelf, except in one inſtance, to perſonal communications; for all that is publiſhed is free ground, and to uſe it fairly is the beſt acknowledgment.

II. To Dr. Horſley, Biſhop of Rocheſter, and to Mr. Wales, the companion of Cook, I am indebted for two Diſſertations (which would do honour to any work) upon one of the moſt intricate queſtions of Chronology; and to Mr. de la Rochette for the ſolution of a geographical difficulty of no ſmall importance. Dr. Ruſſell, the hiſtorian of Aleppo, was my adviſer in the few at-

tempts I have made upon Arabic etymology, and conferred a ſtill greater favour by introducing me to a correſpondence with Mr. Niebuhr, the beſt of modern travellers ſurviving. The information I received from him, indeed, related more immediately to another object than the one before us; but as a future opportunity may not offer, I ſeize the preſent with avidity to own my obligations. By Mr. Bryant I was favoured with a map which I could not otherwiſe have procured; and to Mr. Marſden, the hiſtorian of Sumatra, I am indebted for an introduction to Mr. Dalrymple.

Such are the favours I have received from literary friends, but to the Gentlemen in the ſervice of the Eaſt India Company I have obligations of a different kind.

Major Rennell's Memoirs I have conſulted upon all occaſions, and if I have not profited by perſonal intercourſe, the fault is mine. His civilities will not be eraſed from my mind; but I found that he was engaged in ſome geographical reſearches that interfered with a part of my own, and I held it neither juſt or honourable to aſk for information upon a ſubject that he had already occupied. I have now only to hope that the reſult of our ſeparate inquiries may eſſentially correſpond, as, in caſe

caſe of diſagreement, his reputation as a geographer is eſtabliſhed, and mine is only an expectancy.

From Mr. Jones, Reſident for the Company at Buſheer and Baſra, I obtained much information in the ſpace of a ſhort interview; but he left London before I could proſecute my inquiries, and much to my regret; as I had promiſed myſelf great advantage from his intimate knowledge of the country and the language, and his intercourſe with the people in power; circumſtances which qualify him to give a better account of the preſent ſtate of Perſia than almoſt any other viſitor of the Eaſt.

But Mr. Dalrymple demands the utmoſt tribute of my gratitude. I have had acceſs to his whole collection publiſhed and unpubliſhed, and his advice upon every queſtion of doubt or difficulty. Two charts, compoſed under his direction, accompany the Voyage of Nearchus; and as one of them comprehends a part of the coaſt which, without his aſſiſtance, was inexplicable, a ſhort account of the ſurvey on which it is founded cannot be unacceptable.

In the year 1774, a little ſquadron was equipped at Bombay for the purpoſe of exploring the coaſt between the

the Indus and the Gulph of Perſia. It conſiſted of the following veſſels:

Fox, Lieutenant Robinſon, Commodore.
Dolphin, Lieutenant Porter.
A Patamar boat, in which Mr. Blair and Mr. Maſcall, volunteers, were occaſionally employed.

From the materials collected by theſe officers, Mr. Dalrymple conſtructed a chart, containing the Survey of Lieutenant Robinſon, and accompanied it with a Memoir drawn up by Lieutenant Porter, which he prefaces with the following obſervation:

"The coaſts here deſcribed are ſo little known, that "every particular muſt be acceptable, *as we have* "*ſcarcely any account of them* ſince the time of Alex-"ander the Great."

So perfectly true have I found this, that there is no one Author I have conſulted whoſe relation is intelligible without the aſſiſtance of this Memoir; and if the Journal of Nearchus can now be preſented to the Public with any degree of perſpicuity, or any hope of affording pleaſure, it is due to the liberal ſpirit of the Eaſt India Company, to the Preſidency at Bombay, to the

ability of the officers employed upon the ſervice, and to the uſe Mr. Dalrymple has made of their information.

Commodore Robinſon is ſtill living, and has favoured me with an interview, in which many of my difficulties were removed.

Captain Blair has in ſome meaſure aſſiſted me in tracing the whole coaſt of Mekran which I deſcribe, and, with a liberality congenial to his profeſſion, has favoured me with a ſketch of the coaſt at Cape Jaſk, which ſolves a geographical queſtion left in obſcurity by the ancient writers; and, previouſly to this attempt, undecided by the moderns [1].

The ſecond chart, containing the Gulph of Perſia, was of leſs difficult conſtruction, from the ample ſupply of modern information in the poſſeſſion of Mr. Dalrymple; but his chief reliance is fixed upon Lieutenant M'Cluer [2], another officer in the ſervice of the Eaſt India

[1] Much will be ſaid in the following Work upon the authenticity of the Journal; but the higheſt teſtimony in its favour I received from this Gentleman. He queſtioned me how the fleet found a ſupply of water; and never ſhall I forget his ſurpriſe when I anſwered, "in the ſame manner, Sir, as you "did, by opening pits upon the beach."

[2] The chart of the Gulph of Perſia, by Lieutenant M'Cluer, was *not a public ſurvey*, but the meritorious operation of an *individual* during the moments he could allot without neglect of the common duties of an officer in the different veſſels in which he ſerved. It ſhews how much may be done in common voyages where diligence and ability are not wanting. Lieutenant M'Cluer had adopted a wild ſcheme of paſſing his days at the Pelew Iſlands, but has now abandoned it, and the Public may ſtill hope for much nautical ſervice from him.—NOTE by Mr. DALRYMPLE.

Company,

Company, and whom he regards as a navigator of extraordinary merit and abilities. The lower part of the gulph and the iſlands in it, as to their general poſition and bearings, have long been arranged, though perhaps with an inferior degree of accuracy; but the mouths of the Euphrates and the Tigris have never been ſo perfectly delineated, as by the hand of Mr. Dalrymple. Mr. d'Anville has laboured this point in an expreſs Memoir upon the ſubject, to the full extent of that geographical learning of which he was ſo eminently poſſeſſed; but he had not the means of information, nor acceſs to thoſe ſources which enabled Mr. Dalrymple to conſtruct his chart. At the head of the gulph, and in the diſpoſition of the channels of the Euphrates, Tigris, and Eulæus, Mr. d'Anville has been miſled, from want of materials which have ſince been ſupplied by the publications of Niebuhr, and the inveſtigation of our Engliſh navigators. To their labours Mr. Dalrymple is indebted for his ſingular accuracy, and I have had the ſatisfaction to find that Arrian is more conſiſtent in proportion to every new light that has been obtained upon the ſubject.

III. With ſuch aſſiſtance from others, more perhaps will be expected in the following Work than will be found. To this I have only to plead, that the utmoſt diligence

diligence has been exerted, and the greateſt attention has been paid to every ſource of information I could diſcover; nor am I ſenſible of neglecting any, unleſs ſomething ſhould lie concealed in the early accounts of the Portugueſe[3] upon their firſt arrival in India, but their language I do not underſtand, and the manuſcript of Reſſende in the Britiſh Muſeum is hardly legible, except to a native. I collected ſome poſitions from the charts and drawings in that Work, in which the coaſt of Mekran is better laid down than in any I have ſeen previous to Commodore Robinſon's Survey. The Portugueſe had a ſettlement at Guadel, and one or two others on the coaſt. Some of their accounts in Latin I have ſearched in vain; and Oſorius, whom Dr. Robertſon quotes with reſpect, I examined, but found his period was too early to avail me.

Some apology is requiſite for the other Maps I have introduced. They are compiled from d'Anville, Rennell,

[3] A few names occur in de Barros Ramuſio's Collection, tom. i. p. 388; and I have likewiſe examined the Engliſh tranſlations of Manuel de Faria y Souſa (1695), and of Hernan Lopes de Caſtaneda (1582), with little ſucceſs. Souſa mentions Reſſende, vol. ii. p. 294, and the plundering of Guadel by the Portugueſe, p. 373. It appears from another part of his work alſo, vol. iii. p. 416, that the coaſt of Guadel and Sinde were a part of the Portugueſe ſettlements. Texeira I have not met with in Engliſh, though I am told there is a tranſlation of his travels.

and Dalrymple; but they are the effort of one who never compoſed a Map before. The uſe of them is to connect the motions of the army with thoſe of the fleet, and to explain the geography of Arrian; but the introduction of them might have been ſpared, if I could have procured a ſmall ſheet Map of Mr. de la Rochette's, compriſing all the conqueſts of Alexander. That, however, I was forced to decline, as the price exceeded my abilities.

I foreſee likewiſe, that exception may be taken to the quantity of introductory matter, and to a variety of digreſſions and interruptions which will occur; but for theſe I offer no apology. My purpoſe was not to tranſlate Arrian, but to make him intelligible to an Engliſh reader, and to inveſtigate a variety of ſubjects, hiſtorical, geographical, and commercial. The narrative has never yet been exhibited in a perſpicuous form; and even Dr. Campbell*, in his account of this Voyage, though he is the only writer who has comprehended the views and deſigns of Alexander, has, almoſt equally with his predeceſſors, neglected the reduction of ancient geography to the ſtandard of modern inform-

* In Harris's Collection, vol. i. p. 400.

ation.

ation. I may perhaps have deſcended too much into minuteneſs on this ſubject, but I cannot repent it; my duty was to explain my author, and I wiſhed to have the ſite of Kalama fixed as decidedly as that of Alexandria.

To a modern navigator I may appear to have disfigured my charts with ancient names, but I have not omitted the modern ones, nor neglected to mark the longitude and latitude of any cape or iſland of importance, from the lateſt obſervations; and much diſappointment ſhould I feel, if the critical inquiries which occur, ſhould render the Work unacceptable to any intelligent officer who may hereafter viſit theſe coaſts. Every deduction made in the cloſet from a comparative view of former writers, ought to be ſubject to inquiries upon the ſpot. Theſe I court, rather than decline; and if any navigator ſhould make this Work the companion of his voyage, I ſhall be ready to retract any opinion, or correct any miſtake, upon better information. Geography, of all ſciences, profits moſt by the correction of errors.

The orthography I have adopted will be liable to the objections both of literary and nautical readers: I have only to requeſt that it may not be imputed to a love of

ſingularity or affectation, but to principle; for I have diſcovered ſeveral relations by contemplating the native ſounds of Greek orthography, and many more I am perſuaded will occur to thoſe who purſue their inquiries in the country. I write, for inſtance, Killoota, not Cilluta, becauſe the latter comes to our ear, Silleuta; and the former is the true ſound to the ear of a Greek. In modern names alſo I write Phoregh, and not Fohregh; becauſe the Ph preſerves the relation of Phooreh with Poora, which Arrian makes the capital of Gadroſia. In comparing Oriental names with European orthography, I wiſh every inquirer to notice, that P. B. T.[5] and ſeveral others, are the ſame letter with the aſpirate or without it; the diſtinction is made by a mark in many Eaſtern languages, as by a point in the Hebrew. A minute attention to this has led me to more diſcoveries than one.

In writing names familiar in our Engliſh charts, I prefer the moſt popular, but generally notice the variation either on the firſt mention of it, or occaſionally as the uſage occurs. Thus I adopt Buſheer and Bombareek, as known to every Engliſh navigator, rather than Abu-

[5] פ Ph. פּ P. ב Bh. בּ B. ת Th. תּ T. and B in Perſic V. All the letters ב ג ד כ פ ת are liable to this fluctuation.

ſchæhr

ſchæhr and Cohum-barick[6], which Niebuhr pronounces to be the Oriental orthography. I agree, however, moſt cordially with Mr. Dalrymple, in allowing that every variation ſhould be preſerved till ſome eſtabliſhed mode ſhall be fixed; and in no one inſtance can this fluctuation be more fully exemplified, than in the expreſſion of the Perſian[7] ڤ Kaf. This letter our Engliſh navigators enounce as the ſoft G, writing Gidda or Jidda; but Michaelis aſſerts, that in the neighbourhood of the Gulph of Perſia it is uttered like Tſch, and Niebuhr[8] writes Dsj, as Dsjeſira for Geſira. Even in Oriental fluctuation this ſound becomes hard like our G, before A, O, or U; for Geſira paſſes into Gheſira, Gaſira, and Guſera; and ſtill farther into K and Ch[9], as

[6] Mr. Niebuhr's orthography of this word is liable to objection, for Bundereek he writes Bunder-regh, and regh is ſand.

[7] Michaelis Extrait de Niebuhr, p. 19. Aux Environs du Golfe Perſique on prononce ڤ Kaf comme tſch.

[8] J'ai déja remarqué . . . qu'il eſt difficile de bien ortographier dans ſa propre langue, mais plus difficile encore dans une langue étrangere, ... c'eſt ce que eſt cauſe que j'avois quelquefois ortographié tout différemment les noms des mêmes villages, ſuivant la prononciation de différens perſonnes. Niebuhr. Voyage, tom. i. p. 57. Amſterd. edit.

And p. 74. Or ſi un écrivain Arabe a écrit différemment les mêmes noms, d'après la prononciation de pluſieurs de ſes compatriotes, le vrai Savant ne me ſaura pas mauvais gré, ... que je n'ai pas voulu écrire moi-même les noms en charactères Arabes.

After theſe confeſſions, who can affect preciſion in writing Oriental names?

[9] Michaelis writes Dſchidda; Niebuhr, Dsjidda, for our Engliſh Jidda.

Ni les Grecs ni les Latins connoiſſent le ſon de *ſch* en Allemand. Extrait, p. 31.

Dsjenk

Dsjenk into Kienk, Kenk, and Chienk; under another form, by adhering to the D, it drops the sj, and becomes Denk and Tenk. It is thus that Pliny writes Jomanes, and Ptolemy, Diamuna, for Jumna, the river of Dehli, which falls into the Ganges. With this copious ſource of variation, (and numerous others that are attendant upon other letters,) ſurely Michaelis confines etymology within bounds far too narrow, when he inſiſts upon the appearance of individual letters to eſtabliſh a conformity. In my opinion, the ear is a better guide than the eye. What European, upon the firſt view of the Oriental Bukhetunnuſre[10], would diſcover that the ſound is familiar? It is by the ear only we find that, with the addition of a ſyllable, it is Nabuchodonozer, the Nebuchadnezzar of the Scriptures. I wiſh not, however, to diſplay the parade of reſearch on this ſubject, for I have ventured little on etymology; if I eſcape from reprehenſion on the ſcore of orthography[11], it is ſufficient.

To accompliſh the whole Work agreeably to my own ſatisfaction, a greater ſtock of geometrical knowledge and Oriental learning was neceſſary than has fallen to

[10] Otter, tom. i. p. 182. So the Engliſh write Ser-po-jeé for the Mahratta name Surra-botſchí.

[11] See on this ſubject, Ludolphus Abyſſinia, book iv. c. 1.

my

my lot, and I now ſubmit it to the Public, not without apprehenſion that it is as likely to offend by minuteneſs[12], as to pleaſe by arrangement and variety of inveſtigation. It is, however, a Work compiled by the labour of many years, and perfected to the beſt of my abilities, and it now ſtands for judgment before a tribunal from which there is no appeal.

[12] Minute as I muſt ſometimes appear, the Right Reverend and judicious Editor of Cook's laſt Voyage will juſtify me by his example; for I have never ſpent the time upon an obſcure place that he has upon Kerguelen's land; and never been ſo anxious to clear a difficulty about a name, as he has about Cape Louis and Cape François in that iſland; though the coaſt of Mekran is at leaſt as intereſting, and as likely to be viſited again, as that ſouthern Thule. Neither his Lordſhip nor myſelf, I truſt, deſerve cenſure; but it is the taſte of the reader which muſt decide.

Caspian Sea
SOGDIANA
BACTRIA
ARIA
PARAPAMISUS
Media
Media
DRANGIANA
GREAT DESERT
SUSIANA
PERSIA
Gulph of Persia
ARABIA
GADROSIA
MEKRAN
Ichthyophagi
Map from D'Anville
Pant ab from Arrian
Coast of MEKRAN from
C. Robinson
intended to connect the March of the
Greeks with the progress of the Fleet
in three Book I.
Published according to Act of Parliament June 4th 1797 by Dr Vincent.

THE

VOYAGE

OF

NEARCHUS.

BOOK I.

PRELIMINARY DISQUISITIONS.

I. *Introduction.*—II. *Character and Deſigns of Alexander.*—III. *Alexandria.*—IV. *Country at the Sources of the Indus.*—V. *Survey of the Empire.*—VI. *Geographers; Pliny, Ptolemy, d'Anville, Rennell.*—VII. *Dates.*—VIII. *Monſoons. Hippalus; Ptolemy; Marcian; Arrian, Author of the Periplus.*—IX. *Itinerary Meaſures.*—X. *Defence of the Authenticity of the Journal.*

I. THE voyage of Nearchus from the Indus to the Euphrates is the firſt event of general importance to mankind, in the hiſtory of navigation; and if we diſcover the comprehenſive genius of Alexander in the conception of the deſign, the abilities of Nearchus in the execution of it are equally conſpicuous.

Hiſtorical facts demand our attention in proportion to the intereſt we feel, or the conſequences we derive from them; and the conſequences of this voyage were ſuch, that as, in the firſt inſtance,

it opened a communication between Europe and the moſt diſtant countries of Aſia, ſo, at a later period, was it the ſource and origin of the Portugueſe diſcoveries, the foundation of the greateſt commercial ſyſtem ever introduced into the world; and conſequently the primary cauſe, however remote, of the Britiſh eſtabliſhments in India.

The narrative of this voyage has been preſerved to us by Arrian, who profeſſes to give an extract from the journal of Nearchus; and notwithſtanding its authenticity has been diſputed (which is a queſtion that will be fully diſcuſſed hereafter), we may venture to aſſert, that it preſents to an unprejudiced mind every internal evidence of fidelity and truth.

It has been the peculiar felicity of Arrian to riſe in eſtimation, in proportion to the degree of attention paid to the tranſactions he records. As our knowledge of India has increaſed, the accuracy of his hiſtorical reſearches has been eſtabliſhed; and as the limits of geography have been extended, the exactneſs of his information has become daily more conſpicuous, and the purity of the ſources from whence he drew, more fully acknowledged.

In regard to the voyage of Nearchus, a mere tranſlation of the work of Arrian would have given but a barren detail of names, with little ſatisfaction to the curious ſpirit of modern inveſtigation, and would in fact have been ſuperfluous: for tranſlations of this narrative are to be found in Ramuſio, Ablancourt, Rook, and Harris [1]. But it is the deſign of the following work, to conſider the views of Alexander in the direction of this undertaking, to elucidate the courſe of Nearchus, and to identify the points in which ancient and modern geography coincide.

[1] The voyage of Nearchus is not in the original collection of Harris, but inſerted in Dr. Campbell's edition of that work.

So

So far as concerns the paſſage down the Indus, and the navigation of the Gulph of Perſia, this has been already performed by Major Rennell and Mr. d'Anville; but Major Rennell [2] leaves Nearchus at the mouth of the Indus, and Mr. d'Anville [3] takes him up at the entrance of the Perſian Gulph; the intermediate ſpace they have both abandoned, as too obſcure, or too unintereſting for inveſtigation, though the merit of the commander depends upon the difficulties he ſurmounted in this part of his voyage more eſpecially; and the clearing up of the geographical obſcurity was an object worthy of the talents of two ſuch maſters in the ſcience.

The lights they have afforded, in the parts they have executed, the poſitions they have eſtabliſhed, and the difficulties they have removed, will be adopted in the following pages, without reſerve; if at any time I diſſent from either, or both of them, I ſhall do it with proper deference to their authority; and if I aſſume an opinion of my own, it is a privilege they have exerciſed ſucceſsfully, and a privilege I have an equal right to claim, not originating in caprice, but in a long and ſtudious contemplation of my ſubject. To Mr. Dalrymple I have already expreſſed my acknowledgments; but beſides his aſſiſtance to this immediate work, I derive from his communication a variety of the moſt correct charts, plans and deſigns reſpecting both the coaſt of Mekran and the Gulph of Perſia; and, above all, a collection of Memoirs and Extracts accompanied with his own obſervations, on which I rely with confidence for the ſolution of every difficulty.

[2] Major Rennell, in his Memoir accompanying his Map of Hindoſtan.

[3] Mr. d'Anville, in a Diſcourſe contained in the 30th volume of the Memoirs of the Academy of Belles Lettres.

Such are the ſources from whence I derive my information, and theſe, with the aſſiſtance of Tavernier, Otter, Pietro della Vallé, Thevenot, Sainte Croix, Cheref-eddin, Niebuhr, and the Ayeen Akbari, are the principal modern authorities upon which the following compilation is founded; the more ancient ones will be ſeen as they occur; and if the reſult upon the whole ſhall be, that the policy of Alexander in the deſign is as conſpicuous as his felicity in the execution, the object of the work is completed.

ALEXANDER.

II. The reſearches of modern hiſtorians and geographers have taught us to conſider Alexander neither as an hero of chivalry on the one hand, nor as a deſtroying ravager on the other. We are no longer miſled by the invectives of Seneca, or dazzled with the inflated declamation of Q. Curtius. As the writings of Arrian have become better known, the juſt ſtandard of this illuſtrious character has been fixed: the rapidity of his ſucceſs has appeared the reſult of prudence as well as valour, while his ſyſtem of government and plans of empire have been found conſiſtent with the ſoundeſt policy.

Previous to the expedition of the Macedonians, the empire of Perſia had been invaded by Cimon the Athenian, and in a more recent period by the Lacedæmonians, under the command of Thymbron, Dercyllidas, and Ageſilaus. The utmoſt extent of theſe ſeveral invaſions was to waſte the provinces, to ſupport a Grecian army with the ſpoils of Aſia, and to inſult the great King in return for the calamities brought upon Greece by the expeditions of his predeceſſors.

But

But Alexander, from the moment he croſſed the Helleſpont, conſidered every country he ſubdued as a portion of his future empire. He never plundered a ſingle province that ſubmitted, he raiſed no contributions by extortion. From the battle of the Granicus, to the final defeat of Darius at Arbela, although he had overrun Aſia Minor, Syria, and Egypt, the richeſt countries of the empire, his conqueſts were attended with no oppreſſion of the people, no violation of the temples, no inſult to religion. Order and regulation engaged his attention equally with the conduct of the war; his meaſures were taken with ſuch prudence, that during eight years abſence at the extremity of the Eaſt, no revolt of conſequence occurred, and his ſettlement of Egypt was ſo judicious as to ſerve for a model to the Romans in their adminiſtration of that province at the diſtance of three centuries.

After the defeat of Darius at Arbela, the flight of that unfortunate monarch, and the purſuit of the uſurper Beſſus, led Alexander to Sogdiana, Bactria, and the northern provinces of the empire. The conſequence naturally was, that when he determined to enter India, he found himſelf at the ſources of the Indus.

The detail of his victories in the countries bordering on that river, is foreign to the preſent work, and will be no farther noticed than as it contributes to illuſtrate the progreſs of the fleet; we ſhall embark with Nearchus at Nicæa on the Hydaſpes, and accompany him, aſſiſted by the light of modern geography, till he delivered up his charge on the Paſitigris, within a few miles of Suſa.

The completion of this voyage with the moſt perfect ſucceſs, was intended only as a prelude to another, in which the circumnavigation

navigation [4] of Arabia was to be attempted; already had Archias [5], Androſthenes, and Hiero been diſpatched to explore the weſtern ſide of the Gulph of Perſia, and returned with an account of the progreſs they had made. Already had Nearchus actually embarked, and Alexander had anticipated the commercial intercourſe between India and Alexandria, when a fever ſnatched him from the contemplation of ſtill greater deſigns, in the thirty-third year of his life, and the thirteenth of his reign.

ALEXANDRIA.

III. It is perhaps imputing too much to the foreſight of this extraordinary man, to aſſert that he had preconceived [6] this comprehenſive ſcheme of commerce from the firſt foundation of Alexandria; but certain it is, that as his mind expanded with his ſucceſs, and his information increaſed in proportion to the progreſs of his arms, the whole plan was matured in his mind before his death, and the execution of it nearly aſcertained.

Whatever vanity is attached to the foundation of cities, and however this paſſion might operate upon Alexander, utility was ſtill the prevailing motive in his mind. Harris [7] has judiciouſly obſerved, that moſt of the cities founded by the Syrian kings exiſted little longer than their founders; and perhaps, if we except Antioch on

[4] A voyage by the Cape of Good Hope round Africa was alſo in his contemplation. See Ar. lib. v. p. 230. where he tells his army that his fleet ſhall ſail round that continent to the Pillars of Hercules. It is a boaſt, however, rather than a plan.

[5] See Ar. lib. vii. p. 301.

[6] Monteſquieu, ſpeaking of the deſign of Alexander in founding Alexandria, ſays,

"Il ne ſongeoit point à un commerce dont "la découverte de la mer des Indes pouvoit "ſeule lui faire nâitre la penſée." Eſp. des Loix, liv. xxi. c. 8.

[7] Harris, vol. i. chap. 11. ſect. 8.

the Orontes, and Seleucia on the Tigris, there was not one capable of exiſting: but the Paropamiſan Alexandria [8], and that on the Iaxartes [8], continue to this day cities of importance; and the Alexandria of Egypt, after ſurviving the revolution of empires for eighteen centuries, periſhed at laſt only in conſequence of a diſcovery which changed the whole ſyſtem of commerce throughout the world. As this city was by the founder intended to be, and afterwards became, the center of communication between India and Europe, it will not be foreign to our purpoſe to introduce ſome particulars concerning it, as the voyage of Nearchus was the primary cauſe of its aggrandizement.

Surrounded [9] on three ſides by the ſea, or the lake Mareotis, communicating with the Delta and Upper Egypt, by means of that lake and channels, either natural or artificial; protected on the north by the Pharos, between which and the main, Alexander had projected [10], and the Ptolemies completed, a double [11] harbour; the ſituation of Alexandria preſented every inducement to the view of the founder, comprehending the means of defence, and facility of acceſs united in a ſingle ſpot. Theſe conſiderations, doubtleſs, determined the choice of Alexander; for the whole ſea-coaſt from Peluſium to Canopus is low land, and not viſible from a diſtance; the

[8] Candahar is ſuppoſed, both by d'Anville and Rennell, to be the Alexandria of Paropamiſus, and the tradition of the natives refers it to Scander. It is ſtill the principal city of the country of the Abdalli, a kingdom which has riſen out of the ruins of the Perſian and Mogul empires. But ſee d'Anville's Eclairciſſemens, p. 19.

Cogend is determined to be the Alexandria on the Iaxartes by its poſition. See d'Anville Geographie Ancienne, tom. ii. p. 305.

[9] See d'Anville on the Topography of Alexandria. Mem. de l'Acad. & Geog. Anc. tom. iii.

[10] This deſign of Alexander is not hypothetical, for Hephæſtion was to have had an Heroum in the Pharos, and his name was to have been inſerted in all contracts between merchants. See Ar. lib. vii. p. 306.

[11] Salmaſius ſays, "three ports." Plin. Ex. 479.

navigation

navigation along this coaſt, or approach to it, is always hazardous; the mouths, or Bogas [12] (as they are called), of the Nile are at ſome ſeaſons dangerous, even to a proverb; but the light-houſe on the Pharos, and the two harbours within it, obviated both theſe dangers; and Alexander, who knew the difficulty of approaching Egypt either by land or ſea, eagerly ſeized on a ſituation which preſented him with a poſt of the higheſt importance in a military view, and a harbour conſtantly acceſſible, at the ſame time.

Theſe were ſufficient motives for the foundation of the city; but as the views of the founder dilated with his better information, ſo the teſtimony of Arrian aſſures us, that from the time he had formed his fleet on the Indus, he meditated a paſſage by ſea from that river to the Gulph of Arabia. He completed what he had conceived in the moſt dangerous part, and left little more to the Ptolemies than to fill up the outline he had drawn. Had he lived one year longer, he might have ſeen the barrier removed which obſtructed the communication between Europe and the eaſtern world, and the commerce of both continents beginning to flow in the channel he had opened. He might have contemplated the dawn of that ſplendour which was to riſe on Alexandria, and the ſource of that wealth which was to render her the firſt commercial city in the world.

The advantages derived to every country which has participated in the commerce of the Eaſt Indies, have been ſo fully diſplayed by Dr. Robertſon, that there is no pretence for encroaching on his province; but that Alexander knew the value of this commerce, foreſaw the conſequences of it, and gave a direction to the courſe

[12] From *Bocca*, Italian, and probably introduced on the coaſt by the *Lingua Franca*. See Wood's Eſſay on Homer, p. 110. et ſeq.

in

in which it flowed for eighteen centuries, is a glory which even the more important diſcoveries of modern Europe cannot obliterate.

Of his knowledge, no greater proof can be required than what Major Rennell has produced, in that admirable Memoir which accompanies his Map of India; where, from the journal of Mr. Forſter, he ſhews, that Alexander in his route from the Paropamiſus to Taxila[13], or Attock, actually trod the road [14] which continues to this day to be the northern line of communication between Perſia and Hindoſtan. This route he extended afterwards acroſs all thoſe ſtreams which the Aceſines or Chen-ab carries into the Indus, and terminated finally at the Hyphaſis, or Biah.

COUNTRY at the SOURCES of the INDUS.

IV. THE province watered by theſe rivers, now denominated the Panje-ab, or five waters, is eſteemed one of the richeſt provinces of the Mogul empire. When at the boundary of it, Alexander was not diſtant three hundred miles from the modern Dehly; and wherever we ſhall pleaſe to fix Palibothra, its diſtance cannot be ſo great as to preclude the knowledge of its name, its wealth, and importance, from the Macedonians.

In all ages, whenever the ſtate of the country was ſufficiently peaceable to admit of commerce, there appears to have been a great intercourſe by means of the Indus, deſcending from Multan, Attock, Cabul, Caſhmeer, to the coaſt of Malabar. Whether the

[13] Taxila is uſually conſidered by geographers as occupying the ſame ſcite with Attock, but Arrian does not countenance this opinion. He ſays, lib. v. p. 199, "That it was the "principal city between the Indus and the "Hydaſpes." And in another paſſage, "Alexander marched from the Indus to "Taxila;" an expreſſion which implies diſtance.

[14] Some allowance muſt be made for deviations, in conſequence of the ſituation of the tribes he ſubdued.

veſſels navigated on the river were capable of undertaking the voyage to the coaſt, or transferred their cargoes at Pattala into larger veſſels, may be queſtioned; but the communication itſelf is evident. The trade which came down the river naturally took its courſe, rather to the rich provinces of the peninſula than to the deſert beaches of the Mekran; it extended poſſibly before the invaſion of the Macedonians, as it certainly did in the following ages, round Cape Comorin into the Bay of Bengal and the mouths of the Ganges; thus uniting in commercial intercourſe the two great ſtreams which incloſe Hindoſtan.

In the Peucaliotis [15], in the territory of the Malli [16], in the kingdom of Taxiles [17] and Porus [18], Alexander traverſed a country abounding in riches, and furniſhing commodities from the thirty-ſecond degree of northern latitude, which are ſure of finding a market between the tropics. The population of theſe countries, as ſtated by Strabo, Pliny, Plutarch, and even Arrian himſelf, is doubtleſs exaggerated, but as they all draw from original ſources, and quote authors who had perſonally viſited theſe countries, whatever abatements may be made, we muſt ſtill ſuppoſe that the apparent view of the whole ſuggeſted an idea of population, and preſented an aggregate of cities, towns, and villages, of which, from the circumſtances of their own country, the Macedonians had no previous conception.

Theſe Authors [19] aſſert, that Alexander ſubdued five thouſand cities in India as large as Cos. Mention is likewiſe made of a thouſand cities in the ſingle province of Bactria; and Arrian, who ſeems

[15] Pukely Ayeen Akbari, always. [16] Moultan. [17] Attock. [18] Panje-ab.
[19] Robertſon, Rennell, Strabo, 693. 686. Pliny, 6. 17. 19. Plutarch, 699.

to

to be always on his guard, informs us, that the country of the Glauſæ, or Glaucaniſæ, contained thirty-ſeven cities, the ſmalleſt of which had five thouſand, and the largeſt ten thouſand inhabitants, and that the villages contained an equal number; the whole, amounting to near half a million, Alexander added to the kingdom of Porus [20].

Whatever degree of credit may be given to theſe accounts, they will at leaſt evince an extraordinary population; and, either from the fertility of the country, or its ſituation among ſo great a number of navigable ſtreams, the flouriſhing ſtate of this tract appears manifeſt in every age, unleſs when deſolated by invaſion. The hiſtorian of Timour expreſſes the ſame admiration as the Greek writers; the Ayeen Akbari reckons the Panje-ab as the third province of the Mogul empire, and mentions forty [21] thouſand veſſels employed in the commerce of the Indus [22].

It was this commerce that furniſhed Alexander with the means of ſeizing, building, hiring, or purchaſing the fleet with which he fell down the ſtream; and when we reflect that his army conſiſted of an hundred and twenty-four thouſand men, with the whole country at his command, and that a conſiderable portion of theſe had been left at the Hydaſpes during the interval that the main body advanced to the Hyphaſis, and returned to the Hydaſpes again, we ſhall have no reaſon to accuſe Arrian of exaggeration, when he

[20] We ought not to be ſurpriſed at theſe exaggerations. Cheref-eddin ſays, Caſhmeer really contains 10,000 flouriſhing villages, but is eſtimated at 100,000. Vol. iii. p. 161.

The level country is not more than twenty leagues from mountain to mountain. The capital is Nagaz, or Syrin Nagar.

[21] Maurice, p. 138, vol. i. from the Ayeen Akbari.

[22] ——Porum et Taxilem reliquit in regnis ſuis, ſummo in ædificanda claſſe amborum ſtudio uſus. Q. Curtius, lib. ix. cap. 3.

 aſſerts,

aſſerts, that the fleet conſiſted of eight hundred veſſels, of which thirty only were ſhips [23] of war, and the reſt ſuch as were uſually employed in the navigation of the river.

Strabo[24] mentions the proximity of Emodus, which afforded plenty of fir, pine, cedar, and other timber; and Arrian informs us, that Alexander, in the country of the Aſſacani, and before he reached the Indus, had already built veſſels which he ſent down the Kophénes to Taxila. All theſe circumſtances contribute to prove the reality of a fact highly controverted; and even though we were to extend the whole number of the fleet, comprehending tenders and boats, with ſome authors to two thouſand, there is no improbability ſufficient to excite aſtoniſhment.

By the ſame means that Alexander obtained a fleet, he acquired information in regard to the commerce of the country, and the different coaſts with which the natives traded. Taxiles and Porus were both in his intereſt; many of their ſubjects doubtleſs embarked

[23] Τριακόντοροι καὶ ἡμιόλιαι. Arrian, lib. vi. in init.

Τριακόντοροι implies, that they were not even gallies of war, ſuch as the Greeks uſed in the Mediterranean, and which were called Triremes, gallies with three banks of oars; but theſe ſeem to have only one deck, and to be rowed with thirty oars on a line, that is, fifteen on each ſide; the ἡμιόλιαι, according to Gronovius, were half-decked, with the waiſt of the veſſel left open for the rowers. But ſee Caſaubon ad Athenæum. Not. 737.

Major Rennell mentions, that veſſels of an hundred and eighty tons are uſed on the Ganges; and Captain Hamilton, p. 122, vol. i. ſays, that thoſe employed on the Indus were, in his time, frequently of two hundred tons, divided into ſeparate apartments which merchants hired for the voyage, and adapted moſt commodiouſly to the navigation. They carried a maſt and ſail, but were more uſually towed by men. The paſſage from Tatta to Lahore is ſix or ſeven weeks, but the return is made in eighteen days, or even twelve; the navigation is open, clear up to Caſhmeer, by means of the Chelum; and Mr. Forſter entered Caſhmeer by that ſtream, which he calls the Jalum. The courſe of this river is eight hundred miles from Tatta to Multan only, allowing for the ſinuoſities of the river. See Major Rennell's Memoir.

[24] Strabo, 691. Arrian, lib. iv. in fine. Rennell ſays, Emodus is not near.

with

with him, either for the purpoſe of conducting the fleet, or with a view to their own advantage; many poſſibly who had frequently made the ſame voyage, and knew the commerce of the coaſt, from whom the inquiſitive ſpirit of Alexander could not fail to extract the information [26] neceſſary for the accompliſhment of deſigns he had contemplated ſo long, and with ſuch anxious ſolicitude.

The evidence of this does not reſt upon deduction or conjecture; the report of Nearchus the admiral, and Oneſicritus the pilot of the fleet, is ſtill extant in the writings of Strabo, Arrian, Diodorus, and Pliny; and though the credit of Oneſicritus is impeached by Strabo, on account of his inclination to exaggerate, he does not heſitate to appeal to his authority in a variety of inſtances, which evince his general knowledge, and ſometimes his intimate acquaintance with the country; but from Nearchus he proves, that all the native commodities which to this day form the ſtaple of the Eaſt Indian commerce were fully known to the Macedonians. Rice [27], cotton [28], and the fine muſlins made of that material, the ſugar-

[26] Οὐδὲ τοῦτο δὲ ἀπίθανον τοῦ Πατροκλέους, ὅτι φησὶ τοὺς Ἀλεξάνδρῳ συστρατεύσαντας ἐπιδρομάδην ἱστορῆσαι ἕκαστα, αὐτὸν δὲ Ἀλέξανδρον ακριβῶσαι, ἀναγραψάντων τὴν ὅλην χώραν τῶν ἐμπειροτάτων αὐτῷ. τὴν δὲ ἀναγραφὴν αὐτῷ δοθῆναί, φησιν, ὕστερον ὑπὸ Ξενοκλέους τοῦ γαζοφύλακος. Strab. lib. ii. p. 69. Sainte Croix, 20.

Nor is there any reaſon to doubt what Patrocles ſays, that thoſe who accompanied Alexander wrote at random; but that Alexander's own knowledge was accurate, as he obtained his information from thoſe who knew the country beſt, and made them commit their intelligence to paper. Theſe papers were communicated to Patrocles by Xenocles the Treaſurer.—This paſſage poſſibly alludes to the ſurvey of Beton and Diognetus. Sainte Croix extends it to more general information.

[27] Rice. Ὄρυζα. The cultivation of it by flooding the lands is noticed by Ariſtobulus. Strabo, 692.

[28] Cotton ſeems to derive its name from the fruit in Crete, called by Pliny Mala Cotonea, or Cydonia, lib. xv. cap. 11. It is diſtinguiſhed by other names; Bombax, Bambax, Goſſipium, Xylon; the cloth made of it, Byſſus. Ferunt cotonei mali amplitudine cucurbitas, quæ maturitate ruptæ oſtendunt lanuginis pilas, ex quibus veſtes pretioſo linteo faciunt. Pliny, lib. xii. c. 10. Byſſus, referred by Parkhurſt, Lex. in voce, to 2 Chronicles, iii. 14. בוץ. Βύσσος μετὰ ποικιλίας. Herod. lib. vii. Ezekiel, xxvii. 7. Beloe, p. 287. poſſibly printed cotton, and worn by the prieſts in Egypt. The Editor of Chambers's Dictionary ſays, it grew originally only in Egypt; but certainly he is miſtaken. See Salmaſ. Plin. Ex. 296.

cane,

cane [29], and ſilk [30], are all expreſsly mentioned in a paſſage which he adduces from Nearchus; and however the Greeks or Romans became afterwards acquainted with theſe commodities, the firſt knowledge, or at leaſt the firſt hiſtorical account of them, is certainly to be attributed to the Macedonians. None of theſe articles had ever been brought into Greece, or any part of Europe, by ſea, and few of them had ever been ſeen unleſs by accident; on theſe, however, it is evident, Alexander depended for the foundation of the commerce he meditated, and for the introduction of theſe he was now planning the communication which was to perpetuate the intercourſe between Europe and the Eaſt Indies.

At this day, when we view the effects, without adverting to the cauſe, we may deem lightly of a voyage which required ſo much

[29] Sugar. Ἐιρηκε δὲ καὶ περὶ τῶν καλάμων ὅτι πιεῖται μέλι, μελισσῶν μὴ ὐσῶν. This aſſertion, Strabo (691) quotes expreſsly from Nearchus. He ſpeaks alſo of canes from which honey is made, though without bees. I do not know that Saccharum is uſed by any author prior to Pliny and Dioſcorides, lib. xxii. 8. Saccharum et Arabia fert, ſed laudatius India. See Salmaſius Plin. Ex. vol. ii. et ſeq. who has a long diſſertation upon the ſubject, and imagines Pliny's Saccharum, as well as that of Dioſcorides, to be manna; yet ſeems to diſtinguiſh the καλαμος of Nearchus as the true ſugar-cane. Sacar appears to be a word of Arabick extraction.

[30] Silk. The paſſage in Strabo is not expreſs; but having mentioned cotton before, he adds, τοιαῦτα δὲ καὶ τὰ Σηρικὰ ἔκ τίνων φλοῶν ξαινομένης βύσσου.

Velleraque ut foliis depectant tenuia Seres.
Virg.

The Critical Reviewers, October 1791, p. 126, interpret this of cotton, as does Salmaſius, p. 298. and p. 998; they call the Seres, inhabitants of Bocharia, and Sirhend, Serinda on the Indus, the ſtaple for ſilk. When in Sogdiana, Alexander was in the neighbourhood of Bocharia; but the mention of Σηρικὰ by Strabo is incidental to India; and if it were not for a paſſage in Arrian, which ſeems to relate to the ſame quotation from Nearchus, I ſhould not heſitate to refer this expreſſion of Strabo's to ſilk. Arrian ſays, Ἐθνῶτι δὲ λιπὲη Ἰνδοὶ χρῶνται καθάπερ λέγει Νεαρχος λινῳ τῷ ἀπὸ τῶν δενδρέων, &c. &c. Indic. I have ſince learnt, that the Reviewers follow the authority of d'Anville Eclairciſſ.; but that great geographer's error is, conſulting ſimilarity of ſound in names too much. When the locality is eſtabliſhed, reſemblance of ſound is a ſtrong confirmation, but to fix locality by ſound is beginning at the wrong end. I cannot help thinking, however, that the mention of Seres and Serica in alluſion to cotton is always error or confuſion; for we muſt obſerve, that ſilk, when it came to be known and characteriſed, was always Serica; while the knowledge of cotton or vegetable wool is as old as Herodotus at leaſt, in Greece. The ſilk-worm is firſt deſcribed by Pauſanias Eliac. ſub fine. Gibbon, vol. iv. p. 72, from d'Anville Eclair. Chambers's Dictionary, &c. &c.

preparation

preparation to accompliſh, and which a ſingle ſloop would now perform in a twentieth part of the time; but the merit of the attempt is to be eſtimated by the originality of the conception; and we muſt allow much to the penetration of that mind, which could fix upon the productions of any country as a baſis for commerce, that ſhould continue in requeſt for two thouſand years, and create a demand perpetually on the increaſe.

The knowledge of India obtained by the Macedonians will perhaps be as fully exemplified by adverting to objects of curioſity as utility [31]. Of this, Strabo furniſhes abundant teſtimony, who from theſe

[31] The following particulars are extracted from Arrian and Strabo, in order to ſhew that the Macedonians were not only ſoldiers, but diligent obſervers. The account given is wholly Macedonian, and nothing inſerted later than Megaſthenes, who was Ambaſſador from Seleucus to Sandrocotta; and Sandrocotta, if my etymology is right, ſignifies a town on the Shantrou or Chen-ab, from whence the Prince took his title. The inquiſitive ſpirit of Alexander is as ſtrong a mark of his character as his paſſion for conqueſt. "You," ſaid the Bramin Mandanis to the King, "are the only "man whom I ever found curious in the in-"veſtigation of philoſophy, at the head of an "army." Strab. p. 715.

The principal caſts of India are four:

1. Bramins. 2. Huſbandmen. 3. Soldiers. 4. Artiſans. There have been always various ſubdiviſions of theſe; both Strabo and Arrian from Nearchus reckon ſeven.

1. Philoſophers or Bramins. 2. Huſbandmen. 3. Herdſmen, Shepherds, and Hunters. 4. Artiſans. 5. Soldiers. 6. Inſpectors of Manners and Police. 7. Counſellors of the Chief Magiſtrate. Ar. p. 324. Strab. lib. xv. p. 700. Of theſe the ſixth and ſeventh claſſes were properly never diſtinct caſts, or at leaſt only ſubdiviſions of the others, and the third was poſſibly comprehended in the ſecond.

Other Particulars mentioned by both.

1. Manner of hunting and taming the elephant. Ar. 328. Strab. 711.

2. Women not deemed diſhonoured who received an elephant as the price of their favours. Ar. 331. Strab. 712.

3. No ſlaves in India. Ar. 330. Strab. 710. Oneſicritus confines this cuſtom to the country of Muſicanus.

4. Gold collected in the rivers. Strab. 718.

5. Chintz. σινδόνας ἐυανθεῖς. Strab. 709.

6. Cotton tree, called Tala by Arrian, and the pod deſcribed. Ar. 320.

Cotton raiment, Strab. paſſ. Arrian, 330. reaching to the middle of the leg.

7. Parrots. Ar. 329. Monkies, ibid.

8. Uſe of Strigils and Shampooing. Strab. 709.

9. No intermarriages between the caſts. Ar. 320. Strab. 704.

10. Knowledge of letters denied by Megaſthenes, Strab. 709, but aſſerted by Nearchus; who ſays, they write on linen or cotton cloth,

theſe ſources drew all the information he has left us concerning the tribes or caſts of the Indian nations. Under whatever variety theſe appear in ancient or modern authors, the four orders of prieſts, ſoldiers, huſbandmen, and artiſans ſtill predominate. Of theſe

cloth, and that their character is beautiful. Ar. 717.

11. Rice planted in water.

12. Wine from rice. Arrack. Strab. 709.

13. Food of the natives. Oryza Sorbiiis. Pillau. None eat fleſh but the hunters. Ar. 331. Strab.

14. The men wear ear-rings. Ar. 330.

15. Dye the beard, ibid.

16. Uſe umbrellas, ibid.

17. Do not exerciſe two trades, 326.

18. Wrap cotton round the head, 330.

19. Two ſorts of philoſophers; Brachmanes and Germanæ. The firſt more properly Prieſts and Diviners; the ſecond Hylobii or Hermits, that is, Fackeers and Jogees. Theſe latter enter every houſe, and even the women's apartments. Many are attended by women devoted to them, but without ſuſpicion of intercourſe; penances and mortifications; reſidence under the Banian trees. Arrian. Strab. Their diſcourſe uſually on death; their philoſophy, that the earth is ſpherical, and the Deity, *anima* mundi. Strab. 713. Burn themſelves, not to avoid evil, but to enter on a new life. Strabo mentions Zarmanochegas, one of the Ambaſſadors from a Porus, King of ſix hundred Kings, to Auguſtus, who burnt himſelf at Athens, on his return towards India.

EPITAPH.

ΖΑΡΜΑΝΟΧΗΓΑΣ ΙΝΔΟΣ ΑΠΟ ΒΑΡΓΟΣΗΣ ΚΑΤΑ ΤΑ ΠΑΤΡΙΑ ΙΝΔΩΝ ΕΘΗ ΕΑΥΤΟΝ ΑΠΑΘΑΝΑΤΙΣΑΣ ΚΕΙΤΑΙ.

But it is remarkable the MSS. read Ζαμμανος Χηγαι, which is the Caganus or Cagan, as uſed by the Huns and Avars. See Ducange in voce; Gibbon, ii. 572. iii. 161. and is in reality the Ham of the Tartars, written Can, Chan, Chaan, Khan, and Cawn. This ſeems the firſt inſtance of uſing the word; and if ſo, this is Zarmanus Khan. Perhaps alſo Zarmanus is related to the Germanæ of Strabo, p. 720.

20. Another ſort of philoſophers called Pramnæ, Strab. 718. who diſpute with the Bramins, and attack their doctrine. This ſect ſtill exiſts, and in alluſion to them, one of the Mogul Emperors (I think Shah Jehan) ſaid, "The philoſopher and the prieſt can "never agree."

21. Perforation of the noſe and lips. Ar. 717.

22. Women hunt with the King. Ground marked out. No man muſt approach. Ar. 710.

23. Women attend the King in war. Ar. 710.

Theſe particulars (and the catalogue might be much enlarged) all agree with our modern accounts of India. They all contribute to prove, that the ſpirit of reſearch was very active in the camp of Alexander, and that the obſervations were in general true. There are many likewiſe which have been deemed falſe, and which, as our knowledge of India increaſes, are found to be deduced from popular errors of the natives, or to have ſome reference to miſtaken facts; and what country is not ſubject to miſrepreſentation by thoſe who viſit it firſt?

diſtinctions,

diſtinctions, Ariſtobulus, Nearchus, Oneſicritus, and Megaſthenes were fully appriſed. It would be thought mere matter of oſtentation, to produce the teſtimonies of this knowledge as they lie ſcattered in a variety of authors; but the accounts of Indian policy and government, the principles of the Bramins, the devotion of widows to the flames, the deſcription of the wild [32] fig or banian tree, the variety of grain [33], the hair, colour, frame and conſtitution of the natives, with an abundance of other minute particulars, ſufficiently intimate a ſpirit of obſervation pervading the Macedonians, as well as that of conqueſt; and their original materials furniſh the ground-work of that accurate inveſtigation purſued at this day with ſo happy an effect by our countrymen on the banks of the Ganges.

SURVEY of the EMPIRE.

V. THE object of introducing theſe obſervations is to ſhew that the deſign of Alexander in planning the voyage of Nearchus was not merely the vanity of executing what had never yet been attempted, but that it was a ſyſtem founded on a preſumption of the advantages to be derived from it, a deſire of knowing the coaſt as

[32] See Strabo, lib. xv. Pliny, and eſpecially Salmaſius Plin. Ex. vol ii. p. 10. 16.

[33] Strabo mentions a grain called Boſmorus, ſmaller than wheat, held ſo choice by the Indians that they ſuffer it not to be planted, unleſs under the obligation of an oath to paſs it through the fire, in order to preclude vegetation. Some of our countrymen who have been in India might poſſibly form a conjecture what this grain is. There is a ſpecies called Gram, found in Myſore. Major Dirom. But this is for horſes. Another called Bajero, in Guzerat. Maurice's Indoſtan, vol. i. p. 124. But from the value ſet upon this, it was poſſibly ſome ſpecies of rice; of which the Indians are ſaid to reckon forty ſorts, and ſome of which they purchaſe at any price.

Mr. Dalrymple conjectures, that the unhuſking of Paddy to obtain the rice by means of hot water thrown upon it, as is ſaid to be practiſed in ſome parts of India, and poſſibly with ſome particular ſpecies of this grain, may have given riſe to this opinion of Strabo's.

well as the interior of his empire, and a reaſonable hope of uniting the whole by mutual communication and reciprocal intereſts.

By tracing the correſpondent parts of this ſyſtem, we ſhall be able to evince its reality; for though the opening of the world to the knowledge of mankind, as Curtius expreſſes it, proved in the event a concern of far greater magnitude; the ſurvey of the empire was of more immediate importance to the conqueror. The line of conqueſt from the Helleſpont to the Indus was complete, but the intermediate country was by no means ſufficiently explored. The route of the army, after the death of Darius, had been moſtly [34] to the North of the Paropamiſus, or that range of mountains, by whatſoever name diſtinguiſhed, which in Oriental geography ſeparates Iran from Touran. India had been entered on its northern boundary; and when Alexander had completed his campaign at the ſources of the Indus, his march and voyage down the courſe of that river defined the eaſtern limit of the empire: commencing again from this limit, he reſolved to explore the ſouthern provinces, which though they had ſubmitted to the reputation of his arms, were in a political ſenſe ſtill unknown.

To obtain the information neceſſary for the objects he had in view, he ordered Craterus, with the elephants and heavy baggage, to penetrate through the centre of the empire, while he perſonally undertook the more arduous taſk of paſſing the deſerts of Gadroſia, and providing for the preſervation of the fleet. A glance over the map will ſhew, that the route of the army eaſtward, and the double route by which it returned, interſect the whole empire by three lines almoſt from the Tigris to the Indus. Craterus joined the

[34] Notwithſtanding particular expeditions to Propthaſia, Arachoſia, &c.

diviſion

diviſion under Alexander in Karmania; and when Nearchus, after the completion of his voyage, came up the Paſitigris to Suſa, the three routes through the different provinces, and the navigation along the coaſt, might be ſaid to complete the ſurvey of the empire.

If the work of Beton and Diognetus had come down to us, or had been as carefully extracted, as the voyage of Nearchus, we ſhould have had better geographical data for eſtabliſhing the interior diviſions of the Perſian empire, than any we can now obtain, either from the reports of travellers, or the hiſtorians of Timour and Nadir Shah. They are ſaid to have reduced, not only the marches of the army, but the provinces themſelves, to actual meaſurement; and though the rapidity of the movements and the ſhortneſs of the time would not admit of an actual ſurvey [35], diſtances accurately ſet down, and journals faithfully kept, are, next to aſtronomical obſervation, the firſt principles of geography. Theſe officers undoubtedly attended one or other of the armies upon their return or they might have been allotted one to each; in either caſe, the attention of Alexander is evident, for the ſurvey itſelf is atteſted by almoſt every contemporary hiſtorian [36], and was extant in the time of Strabo and Pliny.

Arrian himſelf has given ſome countenance to the report concerning the motives which induced Alexander to traverſe the deſerts of Gadroſia. He tells us, that even Nearchus imputed this attempt to vanity and the deſire of imitating or ſurpaſſing Bacchus and

[35] Much more may be done with preciſion in a ſhort time than is generally ſuppoſed; a chain of triangles may be carried on in moſt countries quicker than an army could march, I might ſay in any country, except flat and woody, or the defiles of mountains. The Mahomedans of India meaſure every road they march; at leaſt, I know this is ſometimes the cuſtom, I believe always. Dalrymple.

[36] Sainte Croix mentions Ptolemy and Ariſtobulus, p. 20. but I have not yet found his authority.

Semiramis; the Bacchanalian triumph of the army in its paſſage through Karmania, recorded by other hiſtorians, gives ſome degree of authority to the teſtimony of Nearchus; but Arrian, though he relates the circumſtance, profeſſes his diſbelief of the fact; and an attentive conſideration of the deſigns already diſplayed, ſupported by the internal evidence which the journal itſelf will ſuggeſt, ought, in an unprejudiced mind, to exculpate Alexander from the charge of any unworthy motives. To perform what has never yet been performed is doubtleſs an object of ambition, but the utility of the performance determines the merit of the performer.

That Alexander had a thirſt after knowledge [37] as well as conqueſt is a fact ſufficiently eſtabliſhed; and the teſtimony of Patrocles, which has been already adduced, goes to prove, that the geography of his empire, and an accurate information concerning the ſeveral provinces, formed one of the principal objects of his inquiries. The attention of his officers to theſe points naturally took its direction from the example of their maſter; and whatever complaints Strabo has to prefer againſt ſuch writers as Calliſthenes and Oneſicritus, the journals of Ptolemy [38], Ariſtobulus, and Nearchus form the baſis of Oriental geography, not only as it roſe by the labours of Strabo and Arrian, but in the ſuperſtructure erected by the maſterly hands of d'Anville and Rennell. Ariſtobulus compoſed his work at eighty years of age; Ptolemy [39], after he was King of Egypt: fear, flattery, and every other inducement to falſification had ſubſided; they ſometimes contradicted each other in

[37] The edition of Homer. The letter to Ariſtotle, complaining of his publication. The eight hundred talents allowed to that philoſopher for reſearches in natural hiſtory.

[38] Afterwards King of Egypt.

[39] Sainte Croix, p. 19, from Macrobius. Arrian, p. [illegible].

regard

regard to hiſtorical facts; but as they both drew moſt probably from commentaries [40] they had framed, during the courſe of their campaigns, the marches of the army, the poſition of cities, rivers, mountains, and the general face of the countries they traverſed, come out with extraordinary perſpicuity, when traced by a maſter in the ſcience; and every increaſe of geographical knowledge tends to confirm the accuracy of their reports.

GEOGRAPHERS.

VI. MAJOR RENNELL has borne the moſt honourable teſtimony both to their information and fidelity, by confeſſing that, as his own reſearches advanced, he was continually led to conſider the details of theſe officers as more important, and their accuracy as more fully aſcertained. The map which he has himſelf given, corrected by the journal of Mr. Forſter, and explained in his Memoir, correſponds not only with the route of Alexander, but with thoſe of Timour [41] and Nadir Shah, and with the journal of Tavernier, Goez the jeſuit, and Bernier.

[40] And from the works of Beton and Diognetus. Sainte Croix, p. 20.

[41] In the route of Timour given by Cheref-eddin, there is a regular miſtake of the Ravee (Hydraotes) for the Biah (Hyphaſis); and this miſtake ariſes from Timour's being drawn ſouthward to Ayjodin, near which city he croſſed the Biah, where it takes the name of Dena or Donde; but as Cheref-eddin upon Timur's return calls the Biah the river of Lahore, vol. iii. p. 154. and as we know Lahore ſtands on the Ravee, or Hydraotes, the miſtake is eaſily adjuſted.

Tavernier, vol. ii. p. 61. mentions two routes from Candahar; one to the North by Cabul, which he details; the other direct by Moultan, which he omits. The account is barren, and makes us doubt whether Tavernier travelled it himſelf; but he ſpeaks as if he had.

Goez, according to Kircher, China Illuſtrata, p. 62, went from Lahore to Attock and Cabul, and thence through Tartary to China. Theſe three points are all we have, but they accord with Rennell.

Bernier came from Dehly to Lahore; his object is to give the pomp of the camp, and the deſcription of Caſhmeer; his geographical materials are very ſcanty.

Hanway's account of Nadir Shah's route is ſo totally erroneous, that though we can trace the conqueror we cannot follow the hiſtorian. Jones's Nadir Shah is tranſported from Candahar to Carnal in a moment. Frazer, in geographical materials, is very deficient.

Major

Major Rennell profeſſes to have laid down the weſtern ſources of the Indus and the rivers of the Panje-ab from the map of a native; and ſays, that as his own ideas grew correct from this communication, he was conſequently better enabled to follow the campaign of Alexander in that country, and trace his movements as they aroſe; he ſpeaks with confidence as to all the tranſactions in the Panje-ab, and heſitates only upon ſome points of leſs importance before the croſſing of the Indus. But in a work appropriated to the military tranſactions of the Macedonians, and which ſhall be laid before the Public if this ſpecimen meets with encouragement, I ſhall be enabled to prove, that the accuracy of his Perſian information is as conſpicuous to the weſtward of the Indus as to the eaſtward; and that through the diligence of his inquiries we are now poſſeſſed of data which, there is reaſon to believe, every future reſearch that may be made, will contribute to eſtabliſh. Major Rennell likewiſe informs us, that his Perſian map exhibited a ſeries of the rivers with names correſpondent to thoſe which occur in the Greek hiſtorians; but he has favoured us only with that of the Beypaſha, ſufficiently agreeing with the Hyphaſis of Arrian: this reſerve is the more to be regretted, as the communication would have contributed greatly to correct the errors and elucidate the obſcurity of his predeceſſors.

The Antiquité Geographique de l'Inde of Mr. d'Anville is far from ſtanding upon a level with the merits of his other works; and Major Rennell [42] has obſerved, with great juſtice, that having miſtaken the Chelum or Hydaſpes for the Indus of Alexander, he has conſequently miſplaced and miſnamed all the ſubſequent rivers of the Panje-ab. This is far from being the only error of that able

[42] Rennell's ſecond Memoir, p. 82.

geographer; he has confounded the rivers to the weſt, as well as thoſe to the eaſt of the Indus, and by adopting the Shantrou for one of the Panje-ab ſtreams, (a name which he has obtained from Bernier, and in which he does not diſcover that Chen-ab lies concealed,) he has confounded the Dindana, Chelum, or Hydaſpes, with the Genave or Aceſines, and placed Lahore on that river, which, by the teſtimony of all the authors he uſually follows (Cheref-eddin [43], Tavernier, and Thevenot), is undoubtedly on the Ravee. The principal ſource of theſe miſtakes, which Major Rennell has not ſufficiently noticed, is a determination of Mr. d'Anville's to find Aornus in Renas; unfortunately for his hypotheſis, the Aornus of Alexander was to the weſt of the Indus, and Renas is between the Indus and the Chelum. The neceſſary conſequence is, that d'Anville is obliged to call the Chelum, or Hydaſpes, the Indus of Alexander, and afterwards to perpetuate a chain of error, the reſult of his original miſtake.

There would have been no difficulty to find a Petra anſwerable to Aornus in any ſituation to the weſtward of the Indus. The whole country is mountainous, and infeſted with mountaineer tribes of banditti, as was experienced by Timour and Nadir Shah, no leſs than by Alexander. Even an error in this reſpect would carry no conſequences with it; but the miſplacing of a river vitiates the remainder of the ſeries. This confuſion is not noticed to detract from the merits of Mr. d'Anville, whoſe geographical reputation ſtands too high to be impaired by a failure in a ſingle inſtance, but to evince the danger of indulging a ſpirit of

[43] Cheref-eddin in fact places it on the Biah, but his error has already been adjuſted, p. 21; and that error ſhould have led d'Anville to aſſume a river for the poſition of Lahore rather to the eaſtward than the weſtward of the Ravee.

ſyſtem,

ſyſtem, a ſyſtem founded upon a reſemblance of ancient and modern names, never exemplified more fanciſully than by a ſuppoſition that Renas [44] and Aornus are the ſame word, and never to be admitted unleſs it is juſtified by local circumſtances rather than ſimilarity of ſounds.

Having laboured in the inveſtigation of theſe points ſeveral years before the appearance of Major Rennell's Maps and Memoirs, and having no greater authority to apply to than Mr. d'Anville, I had determined to abandon the work itſelf, for want of ſufficient materials to clear the difficulties which attended it: but upon the firſt view of the laſt Map and Memoir, finding all the ſources of Indus elucidated in the moſt conſiſtent manner, I reſumed my labours; and if this country can now be detailed with perſpicuity, let the merit be referred to that author from whom it originates.

The miſtakes of d'Anville prevent the application of thoſe materials which modern diſcoveries have ſupplied. The errors of the ancient geographers are of leſs conſequence, as both Pliny and Ptolemy give us generally the ſame ſeries of rivers as the hiſtorians of Alexander preſent, and, however erroneous they may be in particulars, ſtill preſerve the general features of the whole. Pliny [45] enumerates the Kophes, the Indus, the Hydaſpes, the Hyphaſis, the Heſudrus, in the order they occur, and though he omits the Aceſines and Hydraſtes, the picture, however incomplete, is not disfigured; but when he adds that Alexander ſailed down the Indus at the rate of ſix hundred ſtadia a-day, and yet it required more than five months to reach the mouth of the river, he is miſtaken in his premiſes; for it will be proved from Strabo and

[44] Antiq. Geog. de l'Inde, p. 17. [45] Lib. vi. c. 17.

Arrian,

Arrian, that the paſſage took up nine months, and that various expeditions delayed the fleet as it arrived ſucceſſively at the ſeveral tribes bordering on its banks. Perhaps we ought to read the paſſage hypothetically; but the aſſertion itſelf is extravagant. Six hundred ſtadia repeated for an hundred and fifty days produce ninety thouſand; this ſum, reduced by the ſtandard of eight ſtadia to the Roman mile, amounts to eleven thouſand two hundred and fifty miles, and it gives no leſs than ſix thouſand by the proportion of Mr. d'Anville's ſtadium of fifty-one toiſes, while the real ſpace upon Rennell's map occupies only eight hundred. Theſe exaggerations [46] doubtleſs originate from the authorities which Pliny followed, and even Arrian himſelf is not free from charges of a ſimilar nature, though in a lower degree; but if Pliny had conſulted his own reaſon inſtead of copying his authorities with ſervility, he could never have aſſigned ſix thouſand miles to the courſe of the Indus between Nicæa and the ſea, when he gives leſs than five [47] thouſand to the whole extent of Aſia, from the Caſpian defiles to the mouth of the Ganges.

The errors of Ptolemy [48] are of another nature, conſiſting generally in a miſtaken calculation of longitudes and latitudes; but whatever cauſe we may have to lament his deviation in particulars, geography is more indebted to him for having introduced, or at leaſt for having eſtabliſhed, this method of determining local ſituation, than it can ever ſuffer by a failure in the application of

[45] Proditur Alexandrum nullo die minus (quam) ſtadia ſexcenta navigâſſe in Indo, nec potuiſſe ante menſes quinque enavigare, adjectis paucis diebus. Lib. vi. c. 17.

[47] This will be proved when the ſtadium itſelf is taken into conſideration.

[48] Thoſe who wiſh to analyſe the ſource of theſe errors, and the means of correcting them, may refer to Mr. Goſſelin's Treatiſe, Geographie des Grecs analyſée; where, if they do not find themſelves ſatisfied with his principles of correction, they will at leaſt obtain the cleareſt view of ancient geography which has yet been preſented to the Public.

his principles. The ſources from which Ptolemy drew do not ſufficiently appear; but as he was a native of Egypt, and lived at the ſame period with Arrian, a period in which the trade between the Gulph of Arabia and India was in full vigour, we may imagine that he had better means of information [49] at Alexandria, the centre of this commerce, than Arrian himſelf had, or any other hiſtorian or geographer who lived in the interior provinces of the Roman empire.

This being the caſe, it is a ſatisfaction to find, that however miſplaced the ſources or the mouths of the Indus appear in the maps adapted to Ptolemy by Mercator or Goſſelin, there is ſtill, in a geographical view, nothing in Ptolemy inconſiſtent with Arrian.

The five rivers of the Panje-ab are given in their order, and though the junction of theſe rivers is neceſſarily laid down by thoſe who formed the maps correſpondent to the author's text, and according to their own knowledge or conjecture, the general ſimilitude is preſerved, and the order uninterrupted.

The Hydaſpes, Sandabalis, Rhuadis or Adaris, Hypaſis, and Zaradrus of Ptolemy, are the Hydaſpes, Aceſines, Hydraotes, Hyphaſis, and Zaranga of Arrian. The Adaris [50] is only a variation in writing the Hydraotes of Arrian, the Hyarotis of Strabo, all derived from the Indian Ivarati [51]; and the Sandabalis, if conjecture deceives me not, is merely a variation of writing Sand-ab, for San-ab, ſtill appearing under the form of Tchen-ab, and depending, as I am informed, upon the enunciation of a Perſian [52] letter

[49] See this confirmed by Ptolemy himſelf, Geogr. lib. i. c. 17. Dodwell Diſ. in Perip. Mar. Erythræi, p. 90.

[50] Rhuadis is the Greek text in Ptolemy; Adaris, the Latin.

[51] See Tieffenthaller.

[52] Thus Gezira is written Djezira, Bejapore, Vigapoor, Vizapoor. So is this river written Chen-ab, Jen-ab, Gen-ave. See infra.

which we expreſs with difficulty; but of theſe I ſhall preſently ſpeak more at large.

The mouths of the Indus are as much diſordered in the maps adapted to Ptolemy as the ſources; and the origin of this diſorder is the ſmall difference of longitude which Ptolemy gives between Lonibare, the eaſtern mouth of that river, and Syaſtra, a town in the bay of Canthus or Cutch. The difference ſet down is only thirty minutes, and the reſult neceſſarily is, that Lonibare is advanced ſo much to the Eaſt as to fall into the head of the bay, and occupy the place which modern geographers aſſign to the river Paddar.

Ptolemy furniſhes us with ſeven mouths, and enumerates their names; and it is a juſt cauſe of complaint that modern geography neither ſupplies us with the means of confirming his aſſertion, or correcting his errors. It is probable that all great rivers which paſs through level ground to the ſea, as the Nile, the Danube, the Ganges, and the Indus, in proceſs of time vary the channel of their reſpective mouths, either by inundation, obſtructions, accumulation of ſoil, and other cauſes, or are diverted for the purpoſes of agriculture and communication. This has been ſo remarkably the caſe in regard to the Nile, that hardly any two geographers, ancient or modern, correſpond in their account. The mouths of the Indus labour under the ſame obſcurity. Major Rennell's ſecond map differs eſſentially from his firſt; three charts of Mr. Dalrymple differ from both Major Rennell's, and from each other; and Captain Hamilton [53], the only navigator I know who went up to Tatta, has

[53] Capt. Hamilton, though a very pleaſant, is not an accurate writer; he did not go by water up to Tatta, but conducted a caravan by land from Lari-bundar to that city. It does not appear clearly from his narrative, whether he went up on the eaſtern or weſtern ſide of the Lari-bundar river; but this will be farther noticed.

not given any account ſatisfactory to a geographer; though he has preſerved one circumſtance which coincides with Ptolemy, aſſuring us that the natives ſtill call the mouths of the Indus, Divellee, or ſeven, though they are far more numerous.

Theſe particulars may be of importance to direct the inquiries of future travellers and navigators; and if they afford but little additional light in regard to the object before us, will plead in excuſe of the preſent attempt to collect all that is known upon the ſubject. The point neceſſary to elucidate is the courſe of the two main branches, Eaſt and Weſt, navigated by Alexander; and to anſwer this purpoſe we might aſſume the Sagapa and Lonibare of Ptolemy, as the Lari-bundar and Bundar Lari of the moderns[54]. There is ſomething peculiar in this modern appellation, that the ſame word reverſed ſhould be applied to the eaſtern and weſtern mouth of the ſame river; for Bundar is only a Perſian term for the mouth of a river, a port, or harbour[55]; and Lari, or Laheri, is common to both. Not daring, for want of Oriental learning, to aſcertain the antiquity of this appellation, I ought to be ſilent on the ſubject; but I cannot help expreſſing a conjecture that the modern

54 In a tranſlation of the treaty between Mohammed Shah and Nadir Shah, given in Fraſer, p. 226, the Mogul Emperor cedes all the country to the Weſt of the Attock, Scind and Nala Sunkra, to the Perſians, but the town of Lohry-bundar and all to the Eaſt of thoſe ſtreams are ſtill to continue ſubject to Hindoſtan. Attock means the higher part of the ſtream; Scind and Mehran, the lower; and as Lohry or Lahri-bundar certainly means the town on the eaſtern branch, I conclude Nala Sunkra, the canal of Sunkra, to be the proper name for that branch; for Tatta and its dependencies are ceded to Perſia, *i. e.* the whole Patalene.

55 Or on land, a gate or paſs; Derbend, iron-gate on the Caſpian.

I imagine, that in Perſick it is properly Bend or Bender; and that Bundar is a corruption; but Fraſer writes Bundar. The vowels vary ſo much, that Tchan, Tchen, Tchin and Tchun, are equally the firſt ſyllable of Chin-ab.

Lari-

Lari-bundar bears ſome analogy to the Lonibare [56] of Ptolemy, and if any literal error could be ſuppoſed, I ſhould read it Laré-boni.

Theſe two points to the Eaſt and Weſt, modern navigation has nearly aſcertained [57]; and one intermediate mouth known by the name of Scindy Bar, and characteriſed by the Sheik's tomb, is alſo clearly diſtinguiſhable; the others appear like openings that have been viewed by veſſels as they paſſed, rather than examined; and which, from the nature of the coaſt, probably never approach near enough to determine any point with accuracy; but if the two extremes are ſufficiently defined, we ſhall have data to illuſtrate the account of Nearchus, and reſemblance enough to make Arrian and Ptolemy conſiſtent.

As the works of theſe ſeveral geographers, ancient and modern, will be perpetually referred to, it will not be thought ſuperfluous that their reſpective merits have been traced. The notice of their general coincidence and particular deviations, at the ſame time that it conduces to the inveſtigation of truth, will, if I am not miſtaken, afford much ſatisfaction to all who are admirers of geography as a ſcience.

DATES.

VII. NEXT to geographical accuracy, it is an object of importance to fix the dates of the tranſaction with preciſion, as the year is miſtaken by Petavius, who follows Diodorus, and the ſeaſon by Monteſquieu, who ſuppoſes the difficulties experienced by the fleet

[56] The ſame ſort of tranſpoſition takes place in a variety of names, Samydaké, Samykadé; Barada, Badara. Hudſon's Geog. Min. vol. i. Marcian. Heracleot. p. 23.

[57] See Major Rennell's Poſtſcript. Richell, Warrell, and ſome others, appear better known.

to

to have ariſen from the circumſtance of performing the voyage during the prevalence of the South-weſt monſoon.

As there are two departures of the fleet, one from Nicæa, and another from the mouth of the Indus, it will be expedient to aſcertain them both; but as the latter is moſt important, we ſhall commence the inveſtigation by ſtating in the words of Arrian [58], that the fleet took its departure from its ſtation in the Indus on the twentieth of Boedromion, in the archonſhip of Cephiſodorus, correſponding with the eleventh year of Alexander's reign. This preciſion is of conſequence, becauſe the liſt of archons is by no means accurate, and without the addition of the year of Alexander there would ſtill be room for doubt. Dodwell and Uſher give a triple ſeries of archons from Diodorus Siculus, Dionyſius of Halicarnaſſus, and Arrian; and the deduction of Dodwell does not perfectly correſpond with Uſher. Uſher's table ſtands thus:

OLYMPIAD CXIII.

Diodorus Sic.		*Dionyſius Halic.*		*Arrian.*
1. Euthycritus.	——	Euthycritus.	——	Hegemon.
2. Chremes.	——	Hegemon.	——	Chremes [59].
3. Anticles.	——	Chremes.	——	Cephiſodorus.
4. Socicles.	——	Anticles.	——	Anticles.

[58] Τότε δὴ ὥρμητο ἐπὶ Ἀρχοντος Ἀθήνησι Κ[illegible] Φισιδώρου ἐικάδι τοῦ Βοηδρομιῶνος μηνὸς, καὶ [illegible] καὶτοι ἄγοντι, ὡς δὲ Μακεδόνες τε καὶ Ἀσιανοὶ [illegible], τὸ ἑνδέκατον βασιλεύοντος Ἀλεξάνδρου. Ar. Indic. 335.

[59] Dodwell differs from Uſher, in aſſigning Arrian's Hegemon to the year which Uſher affixes to Chremes. Arrian, p. 219, ſays, The battle with Porus was fought in the month of Munychion, in the archonſhip of Hegemon. Munychion anſwers to April; and there[illegible] Hegemon had entered into office the pre[illegible]g July, April was the tenth month of his year, Ol. cxiii. 1. inſtead of Ol. cxiii. 2. The year by our eſtimation is 327 A. C. which anſwers to Ol. cxiii. but by the different commencement of the Attic year is in reality Ol. cxiii. 1.

The

The diſcordance of theſe authors is ſo glaring, that after the laborious reſearches of Dodwell, all attempts to reconcile them may well be deemed ſuperfluous. Let us therefore have recourſe to the year of Alexander, which, from a variety of concurrent teſtimonies, is eaſily eſtabliſhed.

According to Plutarch, Alexander was born [60] in the firſt year of the hundred and ſixth Olympiad, on the ſixth day of Hecatombæon, anſwering to the Macedonian month Lous [61]. This date correſponds, according to Dodwell [62], with the twenty-ſixth day of July, in the year three hundred and fifty-ſix before Chriſt. Concerning the actual day, Scaliger [63], Petavius, and Dodwell are at variance; in regard to the year, they are all agreed; and the additional teſtimony of Uſher is a confirmation. Alexander ſucceeded to the throne, Olympiad cxi. 1. or in the year three hun-

[60] According to Petavius, Alexander
was born, — 356 A. C. Archon Elpines.
Philip died, — 336 A. C. Archon Pythodorus.
11th year of Alexander, 326 A. C. Archon Anticles.
Alexander died July 19, 324 A. C. Archon Hegeſias.
According to Uſher, Alexander
was born Sept. 24, 356 A. C. See Uſher, p. 185, with his remark on Lous and
Philip died, — 336 A. C. Boedromion. See alſo Dodwell de Vet.
11th year of Alexander, 326 A. C. Cycl. Diſ. iv. ſect. 14.
Alexander died, — 323 A. C. N. B. The year of Chriſt is not marked in the margin of Uſher, from the year 328 to 323.

If this ſhould excite a curioſity to examine this ſubject, there is a Diſſertation on the Birth of Alexander in Baron de Sainte Croix, p. 325.

[61] Scaliger does not accede to the ſynchroniſm of Lous and Heccatombæon. The diſcordance is reconciled by others, who ſuppoſe that the alteration in the commencement of the Attic year led Plutarch into an error. Dodwell obſerves with great propriety, that after Greece became a Roman province, the poſſible adoption of the Roman calendar rendered the Greeks negligent of their own. Diſ. ii. ſect. 15.

[62] Dodwell de Vet. Cyclis, p. 721.

[63] Scaliger Em. Temp. 416. Auguſt 7.

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dred and thirty-ſix before Chriſt; and according to Uſher on the twenty-fourth of September. If Uſher is right, Alexander was a few months more than twenty at this period, and this is conſonant to the teſtimony of other hiſtorians, and the epoch of his death. But if he began to reign in three hundred and thirty-ſix [64] before Chriſt, the year three hundred and twenty-ſix is conſequently the eleventh year of his reign. This is the date Arrian means to eſtabliſh; and whether or not he has given the right name of the archon is not very material.

This diſcuſſion might have been ſpared if Diodorus and Petavius had not ſtood in the way; for though Ælian labours under a ſimilar miſtake, little attention is due to his errors in a matter of chronology. It is ſurpriſing that Diodorus ſhould have anticipated a year, and placed this tranſaction in the year three hundred and twenty-ſeven before Chriſt. It is ſtill more extraordinary that Petavius ſhould adopt his error. It appears at firſt ſight as if Diodorus had confounded the departure from Nicæa with that from the Indus, but his narrative does not allow this; and he not only commences, but finiſhes, the voyage in the year three hundred and twenty-ſeven at Salmus [65] in the Gulph of Perſia. This was impoſſible, for Alexander died in three hundred and twenty-four before Chriſt, and the intermediate tranſactions from the time he received the fleet near Suſa, to the hour of his death, are as clearly aſcertained as thoſe of any monarch in Europe who has reigned within a century.

[64] That is, if Alexander aſcended the throne on the 24th of September 336 A. C. the eleventh year of his reign commences on the 24th of September 326; and as the fleet did not ſail till October, the date is conſiſtent.

[65] A city mentioned by Diodorus only. Ed. Weſt, p. 243.

The

The performance of the voyage, it is true, does not derive its importance from the year in which it was accompliſhed, however neceſſary it may be to ſupport the order of chronology; but it never could have been accompliſhed with ſuch veſſels as the Macedonians uſed, if the ſuppoſition of Monteſquieu were founded, that they ſailed againſt the Monſoon. Fortunately the Monſoons blow in the ſame ſeaſon now that they did in the time of Alexander; and we have the date of the month given us ſo poſitively by Strabo and Arrian, that we cannot be miſtaken in fixing the departure either from Nicæa or the Indus. Both theſe authors followed the journals of Ariſtobulus and Ptolemy, and the information collected by both is ſo nearly coincident, that we cannot doubt their veracity; in fact, there is but one intermediate report between the author of the Journal and ourſelves.

Strabo [66] fixes the departure from Nicæa in the year three hundred and twenty-ſeven [67] before Chriſt, a few days before the ſetting of the Pleiades; an expreſſion obſcure indeed, though preciſe. The ancients had two ſettings of their conſtellations, morning and evening, and accordingly Columella [68] ſays, on the thirteenth or twelfth of the calends of November, (that is, on the twentieth or twenty-firſt of October,) the Pleiades begin to ſet at ſun-riſe; and a few lines after, on the fifth of the calends of November, (the twenty-eighth of October,) the Pleiades ſet. The phraſe of Strabo is ſimple, without the addition of morning or evening, which he adopts upon other occaſions; we muſt therefore apply it to the latter expreſſion of Columella, which is ſimple likewiſe; reckoning,

[66] Strabo, p. 691.

[67] Blair's Chronology does not mention the Voyage of Nearchus, but fixes the war with Porus for 327 A. C. and the departure from Nicæa is in the autumn of the ſame year.

[68] Col. lib. xi. cap. 2.

conſequently, the ſetting for the twenty-eighth of October, and fixing a given number for a few days, we ſettle the departure of the fleet from Nicæa for the twenty-third of October, in the year three hundred and twenty-ſeven before Chriſt.

In regard to the ſecond departure the year following from the Indus, we have the united teſtimony of Strabo and Arrian with a ſhade of difference, which, though it might be well to reconcile, is not an object of importance. The date of Arrian is the twentieth of Boedromion; the date of Strabo is the evening riſing [69] of the Pleiades [70], and both profeſs the authority of Nearchus. Strabo's date may be elucidated by obſerving, as Salmaſius informs us, that the riſing is the appearance of a ſtar after having been concealed by the ſun, and the evening riſing is, when it appears in the evening on the ſetting of the ſun. The evening riſing of the Pleiades is fixed by Columella for the ſixth of the Ides, (that is, the tenth of October,) we have therefore the intended ſenſe of our author exhibited in the cleareſt light.

Arrian has given us a fixed day with more apparent preciſion, but with leſs real information; for it is well known, to the great vexation of every one who has had to calculate the date of any fact connected with Grecian hiſtory, that the commencement of the Athenian year is moveable, like our Eaſter, and may wander through as many days from the ſame cauſe, the appearance of a full moon. The full moon next after the ſummer ſolſtice was the day appointed for the Olympick [71] games, a day probably fixed upon to give the beſt ſeaſon of the year, and the brighteſt nights for the celebration

[69] Ἀνατολὴ ἐπὶ ἡλίῳ, ἐπιτολὴ δὲ ἡ φανέρωσις τῶν ἄστρων, &c. Sal. p. 720.

ἄστρων μετὰ τὴν κρύψιν τὴν ἡλιακήν. Sal. p. 748.

[70] Ἑσπερία ἐπιτολή ὅταν διιόντος ἡλίου ὁραθῇ τι

[71] See Scaliger Emend. Temp. p. 29. who quotes Pindar and his Scholiaſt.

of thoſe games, which were the boaſt and paſſion of the people. The day on which this full moon was new, was the commencement both of the Olympian and Athenian year, and a year formed on this principle requires perpetual calculations of the moon's changes, whenever a date is to be reduced to the preciſion of modern chronology. Fortunately for thoſe who are engaged in reſearches of this kind, the indefatigable Dodwell [72] has given us a ſeries of years which comprehends this epoch; according to his calculation, the third year of cxiiith Olympiad, which anſwers to three hundred and twenty-ſix before Chriſt, commenced on the ſixteenth of July, and Boedromion, the third month of the year, on the thirteenth of September; the eighteenth of that month he diſcards, and conſequently the twentieth of Boedromion coincides with the ſecond of October. We have already ſhewn that Strabo's evening riſing of the Pleiades anſwers to the tenth of October, and if we now prove that Arrian's date is the ſecond of the ſame month, we have an approximation too exact to ſuffer Monteſquieu's error to miſlead us, and perhaps as near as, at the diſtance of two thouſand years, can be expected.

It was in contemplation at one time to have purſued this reſearch farther, and examine the minute cauſes which might have produced this variation, ſmall as it is, between two authors of ſuch high repute as Strabo and Arrian; but upon referring the queſtion to Mr. Wales [73], one of the moſt accurate aſtronomers of the age, he was of opinion that the preceſſion of the Equinoxes (which had been ſuſpected) was inſufficient to account for the error, and likewiſe expreſſed his doubts whether the ancients were ever accurate in fixing the riſing and ſetting of their conſtellations. His doubts were

[72] Dodwell de Vet. Cyclis, p. 721.

[73] See Mr. Wales's Anſwer in the Appendix, No. 1.

afterwards found to be well grounded; for Salmaſius has demonſtrated, that in ſome inſtances of this kind hardly any two of the ancient aſtronomers are agreed. It is poſſible, however, that Strabo's expreſſion may be laxly interpreted to mean *about* the evening riſing of the Pleiades; for, in a ſimilar inſtance, the morning ſetting of the Pleiades (November the 8th) is eſteemed the commencement of winter; after which it is dangerous to ſail; but it is not till the eleventh that the kalendar ſays, *Maria clauduntur*; we ſhould therefore eſteem the riſing or ſetting of the conſtellations as marking rather the ſeaſon than the day. If ſo, there is latitude given to bring him nearer to Arrian: but let the queſtion be reſolved as it may, the deviation is ſo ſmall, that in neither caſe will it compel Nearchus to perform his voyage in oppoſition to the Monſoon. As a poſitive day is given by Arrian, I ſhall aſſume this in preference, and on the authority of Dodwell, fix the departure of the fleet from the Indus for the ſecond [74] of October, in the year three hundred and twenty-ſix before Chriſt; notwithſtanding, the advance of eight days, according to Strabo, would be a more advantageous point to aſſume.

THE MONSOON.

VIII. The Monſoon is a term ſo familiar at preſent, that it is hardly neceſſary to obſerve, it ſignifies, in India, a wind that blows ſix months from the north-eaſt, and ſix months from the ſouth-weſt. This wind, unknown in the Great Atlantic and Pacific

[74] Uſher fixes on the firſt of October, which, allowing for Dodwell's excluſion of the eighteenth of September, brings his date to correſpond with ours. Had Uſher favoured us with his mode of calculation, this deduction might have been ſpared. But ſee Uſher on the Solar Year, cap. 1. and conſult the authors concerning the time expended after Alexander's return.

Oceans,

Oceans, extends, with a variety of inclinations, through all the ſeas of India from Japan to Madagaſcar; its general courſe only is north-eaſt and ſouth-weſt; its particular deviations depend on the poſition of mountains, capes, and bays, which ſometimes obſtruct or direct its courſe; and near the coaſt it almoſt univerſally gives way to the land and ſea breezes, which blow alternately every twenty-four hours. We ſhall have occaſion to notice all theſe circumſtances during the paſſage of Nearchus from the Indus to Cape Jaſk, and ſhall find authorities to ſupport them.

In a collection of papers furniſhed by Mr. Dalrymple, I have a Journal of Lieutenant M'Cluer, which will enable me to give a better account of the Monſoon in this track, than could have been procured by any other means of information.

" The veſſels bound from Malabar to the Gulph of Perſia uſually " make Muſcat, on the coaſt of Arabia; and the beſt time for " making this paſſage is during the months of November, December, " January, and February[75]." This proves that the north-eaſt Monſoon, which commences with ſome fluctuation in October, fixes ſteadily in November, and continues in force for four months, when it begins to fluctuate again in March, and does not fix ſteadily to the ſouth-weſt till April or May. John Thornton ſays[76], " In November, " December, January, while the wind is northerly within the " tropic, it is eaſterly along the coaſt of Mekran, with a current " ſetting to the weſtward." And another navigator[77] of this track ſays, " Between the latter end of October and the middle of No-

[75] M'Cluer, p. 1; and Tavernier, p. 2. vol. ii.

[76] P. 71.

[77] C. Rannie, in Mr. Dalrymple's Collection.

" vember,

" vember, the land and ſea breezes [78] begin along the coaſt of " Guadel, (Mekran,) and continue four months." He adds, " If a " land wind blows either morning or evening, a ſhip may depend " on a ſea breeze, or at leaſt a wind along the coaſt from the north- " weſt, to bring her in ſhore again [79]; neither is the land or ſea " breeze ever attended with ſqualls of thunder or rain." Tavernier [80], who made this voyage himſelf from Ormus to Surat, mentions, that the paſſage is made during November, December, January, and February, from Surat to the Gulph of Perſia, in fifteen or twenty days.

It has been thought neceſſary to detail theſe circumſtances, in order to ſhew that if Nearchus ſailed, as he did, the beginning of October, why it was neceſſary for him to wait twenty-four days in port, near Cape Monze, (Eirus, or Irus,) till the Monſoon was ſettled in November; he had then every circumſtance in his favour, an eaſterly wind ſetting along the coaſt, a land breeze to give him an offing, without danger of being carried out to ſea, no fear of ſqualls or ſtorms, and a current conſpiring with all theſe advantages to enſure his ſucceſs.

Whether Nearchus was appriſed of all theſe co-operating circumſtances may be doubted; but there is great reaſon to believe, that the navigation was practiſed by the natives, at leaſt in detached portions of the voyage, if not along the whole coaſt; and we may be ſure, if he found at Patala any pilot [81] capable of conducting him,

[78] The ſea breeze blows from noon to midnight; the land breeze from midnight till noon. The weather is generally pleaſant and ſerene in the N. E. Monſoon.

Journal of the Houghton Indiaman, 1756. Mr. Dalrymple.

[79] Rannie, p. 88.

[80] Tavernier, vol. ii. p. 2.

[81] He did find a pilot at Moſarna, which, at the ſame time it proves a navigation carried on by the Perſians, Karmanians, or more probably the Arabians, along the coaſt, evinces the attention of Nearchus.

neither

neither his own foreſight nor the prudence of Alexander would have been wanting to procure aſſiſtance. The general effect of the Monſoon he certainly knew; he was a native of Crete, and a reſident at Amphipolis, both which lie within the track of the annual or Eteſian winds, which, commencing from the Helleſpont, and probably from the Euxine, ſweep the Ægean ſea, and ſtretching quite acroſs the Mediterranean to the coaſt of Africa [82], extend through Egypt to Nubia or Ethiopia.

Arrian has accordingly mentioned the Monſoon by the name of Eteſian winds; his expreſſion is remarkable, and attended with a preciſion that does credit to his own accuracy, and the authorities from which he drew his information. Theſe Eteſian winds, ſays he, do not blow [83] from the north in the ſummer months, as with us in the Mediterranean, but from the ſouth [84]. On the commencement of winter, or at lateſt on the ſetting of the Pleiades, the ſea is ſaid to be navigable till the winter ſolſtice. This ſetting of the Pleiades muſt again cauſe ſome confuſion, for though Gronovius, in his Commentary on Arrian, fixes this for the eleventh of November, becauſe the kalendar ſays, navigation ceaſes on that day; yet Columella places the ſetting on the twenty-eighth of October, and the morning ſetting on the eighth of November. We ſhall prefer, on

[82] A veſſel going up the Nile has always in theſe months a fair wind againſt the ſtream. She comes down like a log upon the water. See Bruce, Pocock, Norden, &c.

[83] And in another place; the Eteſian winds, which prevail the whole ſummer ſeaſon, blowing from the ſea upon the coaſt, render navigation impracticable, p. 335. The mouths of the Indus front exactly ſouth-weſt.

[84] This paſſage of Arrian is accompanied, in the edition of Gronovius, by a long and angry note, as too many of his are. He interprets his author, however, as intending to ſay, that as the Eteſian winds in the Mediterranean blow from the north in ſummer, and are generally ſucceeded by an oppoſite wind in winter, the reverſe takes place in the Indian ocean; the ſummer Eteſian is ſouth, the winter north.

this

this occaſion again, the ſetting as expreſſed ſimply by both authors, and fix the change of the Monſoon as intended by Arrian for the twenty-eighth of October; a day which coincides ſo nearly with modern obſervation, and ſo identically with the circumſtances of the voyage, as to give it a fixed preference to all others. Arrian is not ſo happy in limiting the termination of the Monſoon to the winter ſolſtice, for it has been already ſhewn, that it continues to blow during January[85] and February, and does not fluctuate till March; ſo far is this, however, from impeaching Arrian of ignorance, that it is a proof of his attention and veracity. The fleet reached Karpella before the end of December; Nearchus had conſequently no opportunity of obſerving the prevalence of the Monſoon after the winter ſolſtice; he delivered, therefore, what he knew to be true from his own experience, without conſidering or knowing what the winds were in January and February; and Arrian copied as faithfully as Nearchus related.

We know from later writers[86], that the ancients were perfectly acquainted with the nature and ſeaſons of the Monſoon, and that from the time of Claudius, the fleets which ſailed from Egypt traverſed the Indian ocean to the coaſt of Malabar, and returned from that coaſt again, by means of the Monſoons, without confining themſelves any longer to the winding of the ſhore. It is not, however, our object to diſplay the advances made in later ages, but to ſpecify the diſcoveries of the Macedonians, and the fidelity of the hiſtorian; yet we cannot avoid mentioning ſome particulars that occur in the navigation[87]

[85] See B. de Sainte Croix, Note lxii. p. 319, who ſays, τὰ τροπὰς ἐν χειμῶνι means the vernal equinox. I ſhould be glad to give this conſtruction, if the Greek language allowed it.

[86] Dodwell's Diſ. on the Periplus Mar. Erythr.

[87] Periplus Maris Erythræi, in Hudſon's Col.

of

of the Indian ocean, which bears the name of Arrian, and which, as Dr. Robertſon ſays, very juſtly deſerves more attention than has hitherto been paid to it by geographers. That it is not the work of our Arrian is evident, for the author is as ignorant of the countries inland, as he is accurate on the coaſt; he is equally ignorant of the extent of Alexander's conqueſts, whom he ſuppoſes to have erected altars and chapels in Guzerat, (Barigaza,) though he paſſed little beyond the eaſtern mouth of the Indus. His errors, however, are pardonable, if we conſider him, as what his work declares him, a merchant, or navigator in the ſeas he deſcribes; as one who had perſonally viſited both coaſts of the Red Sea, the coaſts of Africa and Arabia, and the coaſt of Malabar from the bay of Cutch, poſſibly to the kingdom of Calecut [88]: that we are authoriſed to aſſume this, is evident from a paſſage not very intelligible, where he ſays, "In ſailing into the Gulph of Arabia *we* keep our courſe in "the middle; *we* ſail nearer the coaſt of Arabia." The adoption of the firſt perſon ſeems concluſive, and as his deſcription includes Cape Gardafui, (Aromatum Promontorium,) Cana [89], and Ras-al-gate, (Syagros,) in Arabia; the departure of the veſſels from thoſe points with the Monſoon, the cargoes they carried, the part of the coaſt they reached; the particulars of the bay of Cutch, (Baraces,) of Cambai, of Guzerat, (Barigaza,) of the Ghauts, and the

[88] Without building any proof upon what follows, I cannot help obſerving, that as the boundary I fix for this Arrian's knowledge is Cottonora, ſo it is remarkable that Salmaſius's readings of Pliny or Solinus vary on this word; for he ſays he found Cottahonore, Quodtaonare, and Cottaonore. Now it happens that Cotta is a native term for a fort, as Devi-cotta, Palam-cotta; and Cotta Onore gives exactly Onore, a place about one hundred and eighty miles to the north of Calecut, and which is as convenient a point for Arrian's Cottonora, as Calecut which Dr. Robertſon aſſumes.

[89] Cava-Canim, d'Anville; Cape Fartaque, Robertſon. Baraces. Baroach?

Deckan[90], with the return from the coaſt of Malabar by means of the north-eaſt Monſoon; all theſe indicate a knowledge rather proceeding from obſervation than intelligence; all prove that he was not a man of letters, but a curious navigator, and a faithful reporter. To purſue this inquiry may be thought an intruſion upon the province of Dr. Robertſon, but there is much curious matter in this tract that he has left untouched, and ſome circumſtances have eſcaped his notice which are matter of ſurpriſe. Dr. Robertſon has not demonſtrated that the Ptolemies had an immediate intercourſe with India; he ſuppoſes, on the authority of this Periplus, that veſſels did paſs from the Red Sea by coaſting along Arabia and the Mekran to India. I am willing to accede to this ſuppoſition upon the ſame authority, but I have ſearched for farther evidence[91] in vain; and as Dr. Robertſon has produced no other, it is reaſonable to conclude that proof is wanting[92]. It is worthy of remark that Pliny[93] ſays, the knowledge of this navi-

[90] His term is Dachanabades. It is well known that Deckan ſignifies the ſouth, and the modern Deckan, in the peninſula, is ſo called becauſe it lies ſouth of the ſeat of government. It is curious to find this name as old as the time of the author. Deckan ſignifying ſouth, and Abad, a city; Dachanabades ſignifies the capital of the ſouth. Where to place this is indifferent; as, if we were ſpeaking of modern times, we might doubt whether we ſhould call Poonah, Aurungabad, or Seringapatam, the principal city of the ſouth. The reigning prince took the name of his city or province. The modern Deckan is the country of the Nizam, his capital Aurungabad.

[91] Huet (Hiſtoire du Commerce) drops the proſecution of this queſtion at the very point he ought to introduce it, p. 38, and p. 99, and countenances the opinion I have adopted, p. 313. See alſo p. 302. 246. Ed. Paris, 1727.

[92] From a paſſage in Pliny, lib. vi. c. 23, Dr. Robertſon lays down a paſſage from Rasal-gate (Syagros) to Zizerus, a place ſomewhere in India; but as neither Monteſquieu, Major Rennell, nor Dr. Robertſon, can find out where this Zizerus lies, it is a great proof of Pliny's indiſtinct deſcription of India, which appears upon all occaſions. After Dr. Robertſon has laboured the point as much as it will bear, he concludes thus: It is probable that their voyages were circumſcribed within very narrow limits, and that under the Ptolemies no conſiderable progreſs was made in the diſcovery of India. Sect. i. p. 37.

[93] Lib. vi. 23. Nunc primùm certâ notitiâ pateſcente.

gation was in his own days only beginning to be known, and afterwards that the names of the cities and nations enumerated are found in no author of prior date [94]. It is equally extraordinary that the diſcovery made of a paſſage acroſs the Indian ocean by means of the Monſoon, correſponds, in point of time, with this information of Pliny; for Hippalus the author of that diſcovery lived in the reign of Claudius, and with that diſcovery it is eaſy to connect the account of a city called Arabia [95] Felix [96] in the Periplus [97]. For the author ſays, it is near the mouth of the Red Sea on the Arabian ſide, and had formerly been the point of rendezvous between India and Egypt, till it was deſtroyed by the Romans [98] not long before his time. What then are we to conclude? but that the ſucceſs of Hippalus opened a new channel for this commerce; and that the Romans, like all other trading nations, wiſhed to eſtabliſh a monopoly for themſelves by deſtroying the prior means of intercourſe? Have we not, therefore, great reaſon to ſuſpect that the fleets of the Ptolemies went no farther than to theſe marts in Arabia, where they purchaſed the commodities of India, and whence they diſperſed them over Europe? It is not by this meant to infer, that no veſſels from Egypt ever circumnavigated Arabia into the Gulph of Perſia, or penetrated into India; for there is great reaſon to ſuppoſe they viſited both, and explored likewiſe the coaſt of Africa; but the ſilence of authors, and the little [99] ſaid

[94] Strabo, however, is of prior date, but a Greek, and perhaps Pliny means to ſpecify Roman authors. Plin. lib. vi. 23.

[95] Thus in the original; but probably a corrupt text.

[96] Huet, Hiſtoire du Commerce, p. 302, ſuppoſes this Arabia Felix to be Aden; and Aden, he ſays, ſignifies *delices*, p. 54; in which ſenſe it is applicable to Arabia *Felix*.

[97] Dodwell's Diſſert. in Peripl. M. Eryth. p. 102.

[98] By Cæſar. Which Cæſar?

[99] The expreſſion in the Periplus is remarkable, p. 32, τοῦτον δὲ ὅλον τὸν ἐμπόριον Περίπλουν ἀπὸ Κανῆς καὶ Εὐδαίμονος Ἀραβίας οἱ μὲν μικροτέροις πλοίοις ΠΕΡΙΚΟΛΠΙΖΟΝΤΕΣ ἔπλεον. The whole voyage was indeed performed from Cana and Arabia Felix, but in veſſels of an inferior ſize, and by a navigation along the coaſt. This, while it proves that the voyage was performed, demonſtrates at the ſame time the little effect produced from it.

upon the ſubject by the writer of the Periplus, afford ſtrong preſumptions to conclude that theſe voyages were not frequent [100]; that Indian commodities were chiefly purchaſed in Arabia; and that the Romans had the good fortune to reap all the advantages from the diſcovery of Hippalus, to deſtroy the old channels of commerce, and appropriate the new one wholly to themſelves. Two paſſages of Strabo afford ſtrong evidence of the fact; for in the ſecond book [101] he ſays, that the knowledge of the Romans commenced with the expedition of his friend Ælius Gallus into Arabia Felix; in whoſe time an hundred and twenty ſhips ſailed from Myos Hormus; and in the ſeventeenth book [102] he adds, that formerly ſcarcely twenty ſhips dared to navigate the Red Sea ſo far as to ſhew [103] their heads beyond the Straits. Ælius Gallus undertook his expedition under Auguſtus, and if he opened this navigation, the diſcovery of Hippalus under Claudius eſtabliſhed it. The whole of this, indeed, is contrary to Mr. Bruce's ſyſtem [104]; he has however, upon this occaſion, ſo much hypotheſis, and ſo little of hiſtorical fact, that I am not bound to follow his conjectures, in order either to confirm or refute them. What uſe the Iſhmaelites made of the Monſoon, or how the Ptolemies profited by it, is problematical; but the diſcovery of Hippalus is a fact; and though he is barely mentioned by Pliny, we have a diſtinct account of him from the author of

[100] There is a paſſage in Pliny, lib. vi. 22. which mentions, that in the reign of Claudius, Annius Plocamus, who was farmer of the revenues in the Red Sea, while he was going round the coaſt of Arabia to collect them, was carried out to ſea, and beyond Karmania to Hippurus, a port in India; and that the prince reigning there, induced by his account of the Romans, ſent an embaſſy to the emperor. If a voyage to India had been a common occurrence in the time of Claudius, would this narrative aſſume ſo much of the marvellous? Pliny adds, that this embaſſy gave the Romans the firſt certain intelligence of Taprobane.

[101] P. 118.

[102] P. 798.

[103] ὡς τε ἔξω τῶν στομάτων ὑπερκύπτειν, p. 798, and p. 118, ὀλίγων παντάπασι θαρρούντων πλεῖν. Few, if any at all, had the courage to ſail.

[104] Book ii. chap. 5,

the

the Periplus. He informs us, that ſmall veſſels had formerly made a coaſting paſſage from Cana, (Cape Fartaque,) in Arabia, to the Indus, but Hippalus obſerving the ſcite of the emporia, and the appearance [105] of the ſea, ventured upon a navigation acroſs the ocean at the ſeaſon of the ſouth-weſt Monſoon [106]. Since his time, all veſſels follow the ſame track; they ſail for India in the month of July, and return, according to Pliny, in December. This ſlight mention of coaſting voyages is nearly all the evidence we have of a direct Eaſt Indian commerce under the Ptolemies; and it is natural to conclude, that, exiſting in this manner, it was far more profitable to purchaſe Indian commodities in the ports of Arabia, than to fetch them from India by a navigation ſo hazardous and circuitous.

I have been led into this diſquiſition, however unneceſſary it may appear, firſt, becauſe it ſeems a point not ſufficiently attended to, or noticed by former writers; and ſecondly, becauſe it attaches to the voyage of Nearchus in a very extraordinary manner. The coaſt of the Mekran, (Gadroſia,) which had not been heard of in Greece before the time of the Macedonians, was viſited but little on account of commerce, and perhaps not at all, except by the few veſſels which performed thoſe coaſting voyages juſt mentioned, and which probably never touched at any port on it, unleſs from neceſſity. As late, therefore, as the time of Strabo and Pliny, that is, at the diſtance of three hundred and fifty, or three hundred and eighty years, no freſh intelligence had reached the writers of Greece or Rome.

[105] σχῆμα.

[106] Libonotus. Salmaſius has a long diſſertation to prove, that Libonotus is not ſouth-weſt, but weſt. Had he aſked any ſeaman which way the Monſoons blow in India, he might have ſaved himſelf the trouble. D'Anville more ſenſibly lays it down ſouth-weſt. This wind, in honour of the man who firſt had the ſkill and courage to profit by it, was afterwards called the Hippalus.

Strabo

Strabo gives much the ſame account as Nearchus; Pliny is too indiſtinct to make us ſuppoſe he had any better materials; but a period afterwards arrived, and to all appearance after the diſcovery of Hippalus, when this coaſt was again viſited; for Ptolemy, who lived in the reign of Adrian [107], by reſiding at Alexandria, had the opportunity of making inquiries upon the ſpot. Some merchants and navigators evidently in his age frequented this coaſt, for he does not draw his materials from Strabo, Arrian, Nearchus, or Oneſicritus, but exhibits a varied liſt of names and ſituations, in the arrangement of which he is followed, with little deviation, by his copyiſt Marcian of Heraclea. But however ſome few individuals might furniſh information to the geographer, the diſcovery of Hippalus now diverted the general courſe of navigation to the richer coaſt of Malabar; there was no occaſion, and little inducement, to viſit the Mekran; and conſequently there is a chaſm of ſilence on this ſubject in almoſt every geographer, voyager, and traveller, from the time of Ptolemy till the period when the Portugueſe penetrated again to this coaſt of deſolation. But though the Portugueſe formed ſettlements in this country, we find little diſtinct information in their accounts; and if the Engliſh Eaſt India Company had not directed a ſurvey of this coaſt to be made, the expedition of Nearchus could not have been properly illuſtrated, nor the narrative of Arrian ſo fully vindicated, as it may now be, from the charge of impoſture.

THE STADIUM.

IX. The application of the circumſtances attendant upon the Monſoon, to the voyage under contemplation, has been an eaſy and

[107] Anno C. 138.

a pleaſant

a pleaſant taſk; and if it were poſſible to arrange the meaſures uſed by our author, and the diſtances aſſigned, with the ſame accuracy, the journal might be preſented to the reader with as much preciſion as a modern voyage: but no accuracy of this kind is to be expected; the ſubject ſurveyed under a variety of lights, and meaſures examined by moſt numerous combinations, afford only a general reſult approximating to perſpicuity, but nothing which will ſatisfy a mind habituated to reſearch, or the curioſity of thoſe readers who conſult the margin of their map as regularly as the country it contains.

The determination of local ſituation, by means of longitude and latitude, is at preſent conducted with ſo much facility, and is ſo familiar to our apprehenſion, that we are liable to forget the difficulties to which the ancient geographers were expoſed. Narratives and itineraries were the original guides for determining diſtances and poſitions; theſe all depended upon meaſures, the meaſures of different countries differ, and the meaſures of the ſame country vary in different ages, and in the calculation of different authors. This is ſo peculiarly the caſe with the Greek ſtadium, that it is in ſome degree indefinite, unleſs appreciated by the age and country of the author, or reduced by ſome ſtandard applicable to the country under conſideration. It is this meaſure which Arrian has adopted, with what laxity may be readily ſeen by conſulting Mr. d'Anville's Treatiſe on the Itinerary Meaſures of the Ancients; and if, by the aſſiſtance of that able geographer, ſome general eſtimate can be formed, it is ſuch as muſt be a reſult from the whole, and muſt not be expected to apply in every particular inſtance. Extraordinary as it is to us who live in times when, by means of the preſs, new acquiſitions of knowledge are diffuſed throughout Europe in the courſe

courſe of a few months, it is a certain fact, that before this communication took place, authors [108] of the ſame age in different countries knew as little of each other's diſcoveries as if they had not exiſted. Arrian and Ptolemy are nearly contemporary, and yet ſo far is Arrian from manifeſting any knowledge of longitude or latitude as applied by Ptolemy to the plane or the ſphere, that he ſeems ignorant even of the parallel of Eratoſthenes, though he is an author quoted by himſelf. He makes but one attempt to mark the courſe of the fleet, by mention of the ſhadow falling to the ſouth [109], and unfortunately the whole track of Nearchus is to the northward of the tropic. But though Arrian has conveyed or preſerved no diſcovery of this ſort, he is ſtill a faithful tranſcriber from his authorities; the ſtandard meaſure, therefore, which he has uſed, we may be aſſured, is ſuch as he found it in Ptolemy [110] and Ariſtobulus, and the valuation of their ſtadium becomes the object of inquiry. Mr. d'Anville [111] ſays with great juſtice, that none of the ancient meaſures require more diſcuſſion than the ſtadium; he ſpecifies four different ſorts, and theſe will admit of variations.

	French Toiſes [112].		
The Olympian - -	94½		
The Pythian - - -	125 or 750 feet.		
		Feet.	Inches.
Xenophon's - - -	75	3	7
Ariſtotle's - - -	51	0	0

The Olympian, or common ſtadium, is that employed by the generality of writers in the eſtimation of eight to a Roman mile;

[108] Goſſelin, p. 27.

[109] This will be noticed in its place.

[110] Not the geographer, but the companion of Alexander, and afterwards king of Egypt.

[111] Meſ. It. p. 85.

[112] The French toiſe or fathom is ſix feet, and a French foot is to the foot Engliſh nearly as 16 to 15.

the

the Pythian is little noticed; that of Xenophon is taken from the marches of the ten thouſand, where thirty ſtadia are reckoned equal to a paraſang; and that of Ariſtotle, according to Mr. d'Anville, is the ſtadium adopted by the Macedonians. It requires great confidence in our guide to acquieſce in this aſſertion, for no ſtadium of fifty-one toiſes is mentioned even by Ariſtotle himſelf; it is extracted from him by inference, and the inference itſelf is extraordinary. The circumference of the earth was eſtimated by Eratoſthenes at two hundred and fifty-two thouſand [113] ſtadia, which gives ſeven hundred to a degree; but Ariſtotle [114] calculates the ſame circumference at four hundred thouſand ſtadia. This ſum divided by three hundred and ſixty produces one thouſand one hundred and eleven; and if we reckon one thouſand one hundred and eleven ſtadia to a degree, the ſtadium can contain only fifty-one [115] toiſes. Now the truth ſeems to require, that we ſhould examine whether Ariſtotle intended to give a larger world or a leſs ſtadium, before we accede to the inference deduced. If, however, we were once perſuaded that Ariſtotle had adopted a ſtadium of this kind, we might find a philoſophical reaſon for the application of it by Alexander; for his inſtruction to Beton and Diognetus to employ it in their ſurveys, and for our finding it in the journal of his officers. The philoſopher was the preceptor of Alexander; and if he had any hypotheſis of his own to eſtabliſh, by an admeaſurement of a new invention, it is not impoſſible that the pupil might have adopted the ſyſtem of his

[113] D'Anv. p. 82. Cenſorinus Vitruvius, &c.

[114] De Cœlo, lib. 1. c. 14. D'Anv. p. 83. See Blair's Treatiſe on Geography, p. 59.

[115] It is extraordinary that Mr. d'Anville, Meſ. Itin. p. 83, ſhould expreſsly ſay, fifty-one toiſes and a little more; and that the B. de Sainte Croix, quoting the very paſſage, ſhould aſſert, that Mr. D. makes the ſtadium fifty toiſes two feet five inches, and then reckon fifty toiſes without the fraction. Ex. Crit. p. 103.

maſter, either from deference to his talents, or from ambition, becauſe it was new.

To confeſs the truth, when I engaged in this inquiry I regarded lightly the whole of this ſyſtem; and though I am not now convinced that any ſuch ſtadium exiſted, but rather ſuppoſe that it is a Greek term applied to an Oriental[116] meaſure, ſtill the general correſpondence of fifty-one toiſes to the meaſure of Arrian, be it a ſtadium or not, does appear, upon the whole, agreeable to fact.

In order to examine this queſtion more intimately, I extracted all the ſeveral diſtances in Pliny[117], d'Anville, and Rennell, from the Caſpian Straits to the junction of the Jumna and Ganges; and though this ſtadium would not accord with Pliny, calculated either way, it approached nearer to Major Rennell's diſtances, than Mr. d'Anville's own, upon the whole extent of the line; and as Major Rennell is the more correct, the coincidence is ſtill more in its favour.

In purſuing the ſame mode of compariſon through the voyage of Nearchus, though it is not poſſible to eſtabliſh a proportion of part to part, or perhaps to meaſure five hundred ſtadia in any detached portion of the courſe with ſatisfaction, yet ſo far do the errors correct one another, that it would be ungenerous not to acknowledge Mr. d'Anville's merit in the diſcovery of this principle, however we may heſitate about the application of it, to the minuter diviſions of the voyage.

The diſtance from the northern mountains where the Indus iſſues, to its junction with the ſea, Arrian eſtimates, from the account of

[116] Tieffenthaler reckons by miles, but his miles are coſe, equal to 1 $\frac{2}{12}$ths of a mile. What forbids the Macedonians to have done the ſame?

[117] Great allowances muſt be made for the incorrectneſs of Pliny's numbers.

Eratoſthenes,

Eratoſthenes, at thirteen [118] thouſand ſtadia; the ſame ſpace on Major Rennell's map gives by the opening of the compaſſes ſomewhat more than thirteen degrees of latitude; we have then at once a thouſand ſtadia to a degree, and may well make up an hundred and eleven more, by allowance for the courſe of the river, or the march of armies; and if, by the ſame proportion, we meaſure from the ſea to Nicæa, or Jamad on the Chelum, we find ſomewhat more than nine degrees, or about ſix hundred and twenty-five miles Engliſh, which, with allowance for the courſe of the river, we may extend to eight hundred and fifty [119] or even nine hundred miles.

The ſecond diſtance given is the coaſt of the Arabitæ from the harbour of Krocala to the river Araba, eſtimated by Arrian at a thouſand ſtadia, and meaſuring by Mr. Dalrymple's ſcale about ſeventy-five miles.

The third diviſion is the coaſt of the Oritæ from the river Araba to Malana, one thouſand ſix hundred ſtadia according to Arrian, and nearly ninety-eight miles by Mr. Dalrymple's ſcale.

The fourth diviſion is the coaſt of the Ichthyophagi from Malana to Badis; that is, from Cape Maran, or Malan, to Cape Jaſk, which Arrian reckons at ten thouſand ſtadia, but his total and particulars are at variance. Of this coaſt we have a ſurvey by Lieutenant Robinſon, and according to his ſcale it meaſures nearly four hundred and eighty miles, a diſtance more diſproportionate to Arrian's ſtadium than any of his former diviſions, for it differs no leſs than an hundred and forty-five miles; the inaccuracy of which we can only excuſe on account of the extreme diſtreſs of the fleet.

The fifth diviſion is the coaſt of Karmania from Cape Jaſk to the iſland Keiſh or Katæa; the number of ſtadia given by Arrian is

[118] Indic. p. 315.

[119] Major Rennell reckons the navigation up to Moultan at eight hundred miles.

three thouſand ſeven hundred, but his eſtimate is lax, and the deduction from it dubious. The coaſt meaſures ſomewhat leſs than two hundred and eighty miles Engliſh by Mr. d'Anville's ſcale.

The laſt meaſure we can aſcertain is that of the coaſt of Perſis; and even here Arrian's ſtatement of four thouſand four hundred ſtadia muſt be augmented by an allowance for four omiſſions, which cannot make it amount to leſs than four thouſand ſeven hundred [120] ſtadia, between Keiſh and the river Endian, the Katæa and Aroſis of Arrian. Mr. d'Anville's ſcale makes this ſpace equal to three hundred and twenty-three miles, but from the later information of Mr. Dalrymple's charts there is reaſon to think it not leſs than three hundred and fifty miles Engliſh.

Upon a recapitulation of theſe ſeveral ſums, the account would ſtand thus:

	Stadia.	Miles Engliſh.
From Jamad to the mouth of the Indus	10,000	625
Coaſt of Arabitæ - - -	1000	75
Oritæ - - -	1600	98
Ichthyophagi - -	10,000	480
Karmania - -	3700	280
Perſis - - -	4700	350
	31,000	1908

Stadia multiplied by fifty-one toiſes	1,581,000	ſtadia.
Miles Engliſh multiplied by 826 toiſes -	1,576,008	ſtadia.
	1,581,000	
	1,576,008	
Difference - - -	4,992	toiſes.

[120] It ought to be five thouſand eight hundred. See Perſis *infra*. But a general eſtimate only is taken here.

Of

Of theſe particulars, the firſt only is reduced by computation, the remaining five are the actual eſtimates of Arrian, compared with the meaſures derived from modern obſervations; and when the reſult is an error leſs than five thouſand upon upwards of a million and an half, the difference is not worth regarding. I am ſenſible, however, that ſeveral of the modern diſtances are liable to objection, and I lay no claim to preciſion on this head; but they were taken in the beſt manner the charts and maps allowed, without any regard to the iſſue, and the reſult permitted to come out in its natural courſe, without previous accommodation. One circumſtance which may appear erroneous, is, in my eſtimation, the natural means of reconciling the two accounts more nearly to truth; that is, I have reckoned ten degrees of longitude from the Indus to Cape Jaſk by the ſame ſcale as the other diſtances, which are in reality degrees of latitude; whereas a degree of longitude, in latitude 25°, is in fact about fifty-four miles and an half, inſtead of ſixty-nine and an half. The difference which this cauſes upon ten degrees is nearly an hundred and fifty miles; but if it be conſidered that the ſtadia of Arrian ariſe from the courſe of the fleet, while the modern miles are eſtimated, in ſome meaſure, from the opening of the compaſſes, an hundred and fifty miles upon ten degrees, inſtead of being an error, is an approximation to truth. Actual preciſion I affect not, neither do I think the queſtion capable of being reduced to demonſtration.

Upon the whole, Mr. d'Anville has performed an eſſential ſervice to ancient geography, in pointing out a meaſure of any ſort which can enable us to form an eſtimate of the diſtances recorded in the journal; and whether it be a ſtadium of Ariſtotle, or taken from any ſtandard of the Indians, nay even if it were imaginary, or built only

only on an analyſis of the ſeveral meaſures ſpecified, it is ſtill an object of importance to find this anſwer upon a ſpace of almoſt two thouſand miles; and that the unavoidable errors which ariſe upon the reckonings of all navigators, more eſpecially the ancient, can be made to correct each other mutually, and produce a general reſult which is admiſſible.

Two conſiderations ariſe naturally from the diſcuſſion of this ſubject; the firſt regards Nearchus, whoſe eſtimation riſes in proportion, not only to the difficulty, but the length of the voyage. It is no ordinary degree of fortitude which could enable a commander to undertake this expedition in veſſels very inadequate to the ſervice, and to explore a coaſt of this extent, where, if ſhipwreck were avoided, famine was perpetually to be apprehended.

The ſecond conſideration reſpects the general difficulty of reconciling the meaſures of different countries; no one has laboured this point with the ſame diligence and ſucceſs as d'Anville, and I am obliged to follow his meaſure in toiſes, becauſe if I deſert it, I can find no guide to direct me; but, in fact, even his meaſures, however carefully reduced, ſtill leave ſome obſcurity behind. One great cauſe of this is, that the ſtandards of different countries ſeldom agree without a fraction, and in ordinary calculations the fraction is diſregarded; thus, in reckoning eight Greek ſtadia to a Roman mile, there is always a deficiency of two jugera, or a third part of a ſtadium. The Olympian ſtadium is ſix hundred feet Greek, the foot Greek is nearly [121] the ſame as the foot Engliſh; eight ſtadia, therefore, produce four thouſand eight hundred feet; and two jugera, or a third of a ſtadium added, makes the Roman mile equal to

[121] Here is another fraction. See d'Anville, Meſ. It. on the Foot, p. 10, &c.

five

five thouſand feet Greek or Engliſh. Such is the account of Polybius preſerved by Strabo [122]; and this, one ſhould think, was intended for preciſion. But Mr. d'Anville in his Treatiſe on the Roman Mile, and in his Analyſis of Italy, by a variety of combinations fixes the mile Roman at ſeven hundred and fifty-ſix [123] French toiſes or fathoms; now the French fathom is to the fathom Greek [124] or Engliſh as ſixteen to fifteen [125]; conſequently five thouſand feet Greek ought to be equal to four thouſand five hundred and thirty-ſix feet French; and eight hundred and thirty-three Greek fathoms, with a fraction, ought to be equal to ſeven hundred and fifty-ſix fathoms French: but the reſult is not ſo; for ſeven hundred and fifty-ſix fathoms French amount only to eight hundred and ſix two-fifths Greek fathoms; conſequently, either Polybius is not correct, or elſe d'Anville's calculation has this degree of error. d'Anville, in reality, has paid little attention to the fraction of Polybius.

Another example is, that although Mr. d'Anville regards eight hundred and twenty-ſix French fathoms as equal to one thouſand ſeven hundred and ſixty yards, or a mile Engliſh, which is true almoſt to a fraction [126]; yet he reckons ſixty-nine of our miles to a degree, inſtead of ſixty-nine one-half. It is not meant to inſiſt on theſe as errors, but to ſhew the obſtacles which interpoſe in any calculation of extent; and it is remarkable that Chambers's Dictionary, which reckons one thouſand ſeven hundred and ſixty yards, or five

[122] See Strabo, lib. vii. p. 322. Polyb. lib. iii. c. 39. Schweighæuſer's Ed. vol. v. p. 576. We have it not in Polybius.

[123] With a fraction of two feet two inches four lines, Meſ. It. p. 44.

[124] The Greek and Engliſh foot are nearly the ſame. Meſ. It. p. 70.

[125] More exactly as 1440 to $1351\frac{2}{3}$. Meſ. It. p. 125.

[126] $2\frac{1}{2}$ feet. Mr. Wales.

thouſand

thouſand two hundred and eighty feet, to a mile, in order to obtain a comparative view of our mile with that of other countries, has recourſe to the Rhinland foot, a foreign meaſure as well as the toiſe I have adopted, and the Rhinland feet in an Engliſh mile are five thouſand four hundred and fifty-four.

Such are the difficulties to encounter in the reduction of the ſtandard meaſures of different countries; and if in the attempt here made, to obtain a comparative view of Arrian's ſtadium with the mile of our own country, any common error ſhould occur, I truſt it will meet with indulgence; or ſhould it be of magnitude, I conſole myſelf in the expectation of its exciting others to examine the ſubject who are better qualified for the inveſtigation.

AUTHENTICITY OF THE JOURNAL.

X. I SHALL conclude this book with a defence of the journal of Nearchus as preſerved by Arrian, which has been condemned as ſpurious by Dodwell, and impeached in point of veracity by Hardouin [127] and Huet [128]. The ſupporters of its credit, however, are Salmaſius, Uſher, Sainte Croix, Goſſelin, and d'Anville; and after the mention of their names, if a new apology ſhould be thought ſuperfluous, I muſt plead the neceſſity of defending my own opinion independently of others; for if I had thought the work ſpurious, I would neither have contributed to ſupport an impoſture, nor beſtowed the labour of years upon the elucidation of a Romance.

[127] Hominis mirare in mendaciis confingendis audaciam. Hardouin cited by Sainte Croix. Ex. Critique, p. 255.

I have not ſeen Hardouin's edition of Pliny, but I learn from Goſſelin, that Dodwell aſſumes all his objections.

[128] Huet Com. des Anciens, p. 349. Sainte Croix.

But Nearchus has experienced a fate ſevere in the extreme; he is joined by Strabo with Daimachus[129], Megaſthenes, and Oneſicritus, as a retailer[130] of fables, in his account of India; and his work has been robbed of its exiſtence, on the authority of Pliny, whoſe own narrative is far more objectionable. In conducting this charge, Dodwell[131] has not acted generouſly in prefixing the particular paſſage of Strabo to the publication of the journal; for as this bears hard upon the veracity of Nearchus, it is prejudging the cauſe, and ought not to have been introduced without, at the ſame time, ſtating the evidence on the contrary ſide. Juſtice required it to be noticed that Strabo has copied this journal as evidently as Arrian, and that he is indebted to Nearchus for many facts which, however extraordinary they might appear in his age, have been confirmed by modern obſervation.

Nearchus, it is true, ſpeaks of an enchanted iſland, and a miraculous origin of the Icthyophagi; not indeed with a view to aſſert the truth of ſuch traſh, but to refute it: and if he mentions himſelf as the only man in the fleet who did not fear enchantment, it may prove his vanity or ſelf-importance, but cannot impeach his veracity.

Two circumſtances only occur which can be adduced to ſupport ſuch an imputation; one is, his extravagance in ſtating[132] the breadth of the Indus; the other, his error in aſſerting that at Malana, in November, the ſun in the meridian was ſeen to the north. The former may be reſcued from the charge of falſehood, by ſup-

[129] He places Daimachus in the firſt rank. Nearchus and Oneſicritus only in the ſecond. Saïnte Croix.

[130] Παραψελλίζοντες is the ſtrong expreſſion of Strabo. *Prating nonſenſe.*

[131] Hudſon perhaps, and not Dodwell.

[132] This charge falls rather upon Arrian than Nearchus.

 poſing

poſing that it relates to the river in a ſtate of inundation; and if the latter admits of no ſatisfactory ſolution, it ought not, as ſtanding alone, to be inſiſted on, to the invalidation of the whole work. Dodwell, in reality, has paid no attention to theſe two points, but I exhibit them without fear of the conſequences.

The Baron de Sainte Croix has drawn out the arguments of this great critic, and ſubjoined an anſwer to each; but as the whole charge reſts upon a ſingle line of Pliny, if it can be proved that the paſſage itſelf is inconſiſtent with Pliny's aſſertion in other places, and that Dodwell has not explained it in a ſatisfactory manner, not only the principal argument, but all the collateral inductions fall to the ground. Sainte Croix propoſes to correct it by a different reading, which turns the negative into an affirmative; a liberty, which, though not ſupported by authority, may be juſtifiable in regard to a text ſo corrupt as Pliny's; but I ſhall ſhew that it is incompatible; and therefore, if it is incapable of correction, it muſt be rejected altogether.

The paſſage in Pliny [133] is this: "The journal of Oneſicritus "and Nearchus contains neither the names of places where they "anchored, nor the meaſure of diſtances." Could any one after this ſuppoſe, that the following two-and-twenty lines, which comprehend Pliny's extract of the whole voyage, contain little elſe but the names of places? and theſe evidently taken, not indeed from Nearchus, nor from the original work of Oneſicritus, but from the journal of Oneſicritus, publiſhed by Juba [134] the Mauritanian.

[133] Oneſicriti et Nearchi navigatio nec nomina habet manſionum, nec ſpatia. Lib. vi. c. 23.

[134] Indicare convenit quæ prodit Oneſicritus claſſe Alexandri circumvectus in Mediterranea Perſidis ex India, narrata proximè à Juba. Ibid.

Dodwell

Dodwell feels this inconſiſtency, and accounts for it by making Pliny ſay, what he never does ſay, that there was no *uninterrupted*[135] ſeries of names, like that preſerved in the itineraries of Antoninus, of the Peutingerian tables, &c. What Pliny found in Nearchus ſhall be conſidered preſently; but that he found the names of places in Juba's Oneſicritus his own text proves; and that ſome of theſe places, Tuberus, Hytanis, &c. were *manſiones*, or anchorages, is equally evident. He has given no diſtances it is true; and whether the journal of Oneſicritus contained diſtances[136] or not, it is impoſſible to diſcover; but that Nearchus ſpecified diſtances appears not only by his work, which in this caſe is no evidence, but by the teſtimony of Pliny himſelf upon ſeveral other occaſions.

There is in Strabo a paſſage thruſt into his text as ſtrangely as this aſſertion of Pliny is diſcordant with the tenor of his aſſertions. "Nearchus ſays, he could obtain no native guides or "pilots in his courſe from India to Babylonia, becauſe the coaſt "afforded no places to anchor at[137], or any inhabitants capable from "experience, or knowledge of the navigation, to conduct him."

This paſſage ſtands inſulated between two others, with which it has no connection whatever; and how it has intruded itſelf here ſeems unaccountable. It contains, however, an expreſſion which has ſome relation to the aſſertion of Pliny: Ὅτι προσόρμους οὐκ ἔχειν, becauſe it afforded no *manſiones*. What?—not the journal, but the coaſt; and ſome expreſſion of this ſort has given riſe to Pliny's error.

[135] Itineraria *continuis* manſionibus, manſionumque ſpatiis. Diſ. de Arriani Nearcho, p. 134.

[136] Spatia.

[137] Προσόρμους Stationes. Strab. p. 732.

But let us conſider the paſſage of Strabo. Might not a ſecond Dodwell quote theſe very words, to prove that Strabo bears evidence againſt the authenticity of the journal, which records two pilots, Hydriaces from Moſarna, and Amazenes from Oaracta? This would make out a ſtronger caſe than Pliny's charge amounts to. But the anſwer is ready; for Strabo contradicts Strabo. He ſays here, Nearchus had no pilot; and he ſays afterwards [138], Amazenes, governor of Oaracta, was the pilot from that iſland up the Gulph.

The ignorance of Pliny himſelf, or the corrupt ſtate of his text, or the vitiated medium through which he received his information, is ſuch, that it is not eaſy to diſcover a relation between the account he gives from Oneſicritus and that of Arrian's Nearchus. This alſo forms one of Dodwell's charges. But whether Oneſicritus is the cauſe of this difference, or whether it originates from the intervention of Juba, it is not irreconcilable with Nearchus; for, with ſome aſſiſtance from Salmaſius, I read Arbis for Nabrus, Tomerus for Tuberus [139], Oritæ for Paritæ, Ori gens for Origens, Andanis for Hytanis, Achæmenidas for Achæmedinas, Aradus [140] for Acrotadus [141], and perhaps Arbis for ab eis [142]. And if I now accuſe Pliny of ignorance, or his text of corruption, could Dodwell himſelf, if he were living, defend him? Salmaſius [143] goes ſtill farther; he charges Pliny in direct terms with not knowing the weſt from the eaſt, and conſequently with inverting the order of the tribes on the coaſt, and he notices a variety of other errors which it is not my buſineſs to inſiſt on. Theſe are mentioned merely to ſhew that the credit of

[138] P. 767.
[139] In the margin, Tomberen.
[140] Aradus itſelf is for Arac-us, Arek or L'Arek.
[141] Athithradus.
[142] Abies oppidum.
[143] Plin. Exercit. p. 1177, et ſeq.

Pliny's

Pliny's work ought not to be rated ſo high as to be made the ſtandard for others, or the teſt of truth.

Another objection Dodwell draws from the reckoning by miles, which are Roman, inſtead of the Greek ſtadium, and which, if Pliny had copied from a Greek work, he would probably have adopted. Whether Juba reduced the ſtadia into miles, or Pliny, I pretend not to aſcertain; but that it is the general cuſtom of the latter, whenever he extracts from Greek authors, his whole work will prove; and d'Anville, with his uſual penetration, has ſhewn in a multiplicity of inſtances that Pliny never conſidered any variation in this meaſure, but that, by reckoning indiſcriminately eight ſtadia to the Roman mile, he has incurred errors that are ſubverſive of all geography. D'Anville has had the curioſity to compare ſeveral of theſe computations by miles with the ſtadia on which they were made, and the reſult has been, that as ſoon as the meaſure of the ſtadium in the author copied was aſcertained, the numbers [144] of Pliny have been reconciled to truth; truth, of which the writer himſelf was not conſcious.

But Pliny aſſerts, that there are no meaſures in Nearchus; and whether he copies his extract from Oneſicritus or Nearchus, it is confeſſedly without any meaſure of diſtances. This may be evidence againſt Oneſicritus, or at leaſt Juba; but is of no weight in regard to Nearchus, whom, however he may cite in other places, he certainly does not copy in this extract. In other paſſages, he actually cites the diſtances of Nearchus. This Dodwell allows; but then he adds, they were not regular or uninterrupted; that they did

[144] The Olympic ſtadium being eight to a mile Roman, and Arrian's ſtadium fifteen, by halving Pliny's meaſures an approach to the real diſtance is often obtained.

not

not extend along a whole coaſt, or all the coaſts of the voyage, ſo that a general eſtimate might be formed; this is the ſort of meaſure that Arrian's Nearchus preſents, and this is a ſufficient proof that the work is not genuine. As a general anſwer to this, it is ſufficient to obſerve, that this uninterrupted ſeries is an invention of Dodwell's, and we allow that Arrian's work does contain this ſort of ſeries; but a ſeries commencing at the Indus, and extended to the Euphrates, according generally in its parts, and almoſt perfectly in its total, with the actual ſurvey of the coaſt, as eſtabliſhed by modern obſervation, contains ſuch internal evidence of its truth, that it is impoſſible to be invalidated by any hypothetical argument whatſoever.

This ought to ſuffice; but I will now adduce the very paſſages from Pliny cited by Dodwell himſelf, and make them both bear evidence againſt their own ſyſtem. "Nearchus [145] ſays, that the "coaſt of Karmania extends twelve hundred and fifty miles." And again: "Oneſicritus [146] and Nearchus write, that from the Indus "to the Gulph of Perſia, and thence from the marſhes of the Eu-"phrates to Babylon, are twenty-five miles." In another paſſage: "From the commencement of Karmania to the river Sabis, an hun-"dred miles; from hence vineyards and arable lands to Andanis, "twenty-five miles more." With the account of theſe diſtances, corrupted as the text is beyond all conception, I have no concern; but that meaſures are ſpecified in each ſeparate inſtance is apparent, and thoſe the meaſures of Nearchus. In whatever manner, therefore,

[145] Goſſelin, p. 25; who reads 2500 for 25.

[146] Plin. lib. vi. c. 24. Dodwell, Dif. p. 132. I quote from the Franckfort edition as Dodwell does; and though I know attempts have been ſince made to correct theſe readings, the correction ariſes frequently from calculation, and not from MSS. I have many corrections prepared; but the object here is to ſhew the *ſpatia* of Nearchus, not to correct. See d'Anville, paſſim.

the

the teſtimony of Pliny is to be adduced, for the purpoſe of invalidating the journal of Nearchus, that teſtimony deſtroys itſelf; and whether the paſſage containing it can be interpreted or not, whether it be depraved or correct, whether genuine or ſpurious, it matters little; for an evidence not conſiſtent is no evidence at all.

Dodwell himſelf conjectures, that Pliny had ſeen the original journal of Nearchus, as well as the publication of Juba, becauſe, in the catalogue of the writers whom he conſulted, he mentions the name of Nearchus; and from hence it is concluded, that there are no meaſures in the original, or that Pliny found none; but it has been proved already that, in the abſtract of the voyage, Pliny follows Oneſicritus; and it is now demonſtrated that, upon reference to Nearchus in other inſtances, the text of Pliny proves the exiſtence of thoſe very diſtances he denies. Fair reaſoning, therefore, demanded the aſſent of Dodwell to the ſolution of Uſher [147], who ſuppoſes theſe diſtances to have exiſted in the original, and to have been omitted by Juba; and if this ſuppoſition will not make Pliny conſiſtent, why is he to be ſupported? or why is the exiſtence of other authors to depend upon his ſuffrage?

In conſtructing this defence of Nearchus, I am ſupported by Goſſelin [148] and Sainte Croix [149]; and had I been acquainted with thoſe authors previous to my own reſearches, I ſhould have thought it ſufficient perhaps to have adopted their arguments without any comment of my own; as it is, I have been proud of obtaining their concurrence, and upon the reviſal of this argument have made uſe of their aſſiſtance without reſerve. D'Anville [150] has thought it a ſufficient anſwer to all objections to introduce a part of the narra-

[147] Anno 4388.
[148] Geographie des Grecs, p. 25.
[149] Examin. Critique, p. 250, et ſeq.
[150] Sainte Croix, Ex. Crit. p. 256.

tive itſelf, and preſent it to the reader in the ſame form as the author gives it; and, in fact, the internal evidence of the work ſpeaks more forcibly for itſelf than all the arguments which can be adduced in its favour. The circumſtantial detail of minute facts, the delineation of the coaſt with the ſame features it bears at preſent, the deſcription of manners, cuſtoms, and habits, all characteriſtic of the natives; the peculiarity of the climate, ſeaſons, winds, and natural productions, all beſpeak a knowledge which could have been obtained from actual inſpection only, and all preſent a work which Antiphanes, Euemerus, Iambulus, Euthymanes [151], and all the forgers of antiquity could not have put together.

If it were requiſite to purſue this inquiry farther, Salmaſius affords a copious catalogue of Pliny's errors in regard to the whole coaſt; and whether thoſe errors ariſe from the authors he conſulted, or his manner of conſultation; whether we are to impute them to himſelf, or to the mutilated and corrupt ſtate of the manuſcripts as they came into the hands of his editors; it is impoſſible that a ſingle paſſage in ſuch a work ſhould be maintained, in order to depreciate, nay, to annihilate a journal, in which accuracy is as conſpicuous as the inaccuracy of Pliny is demonſtrable. I ſhall adduce one proof only, and leave numerous others to the contemplation of thoſe who build ſyſtems upon his authority. "The limit [152] between Karmania and "Armozeia is a promontory; but ſome place the Arbii between "them, whoſe whole coaſt extends four hundred and two miles." This is his aſſertion in the twenty-fifth chapter; in the twenty-third,

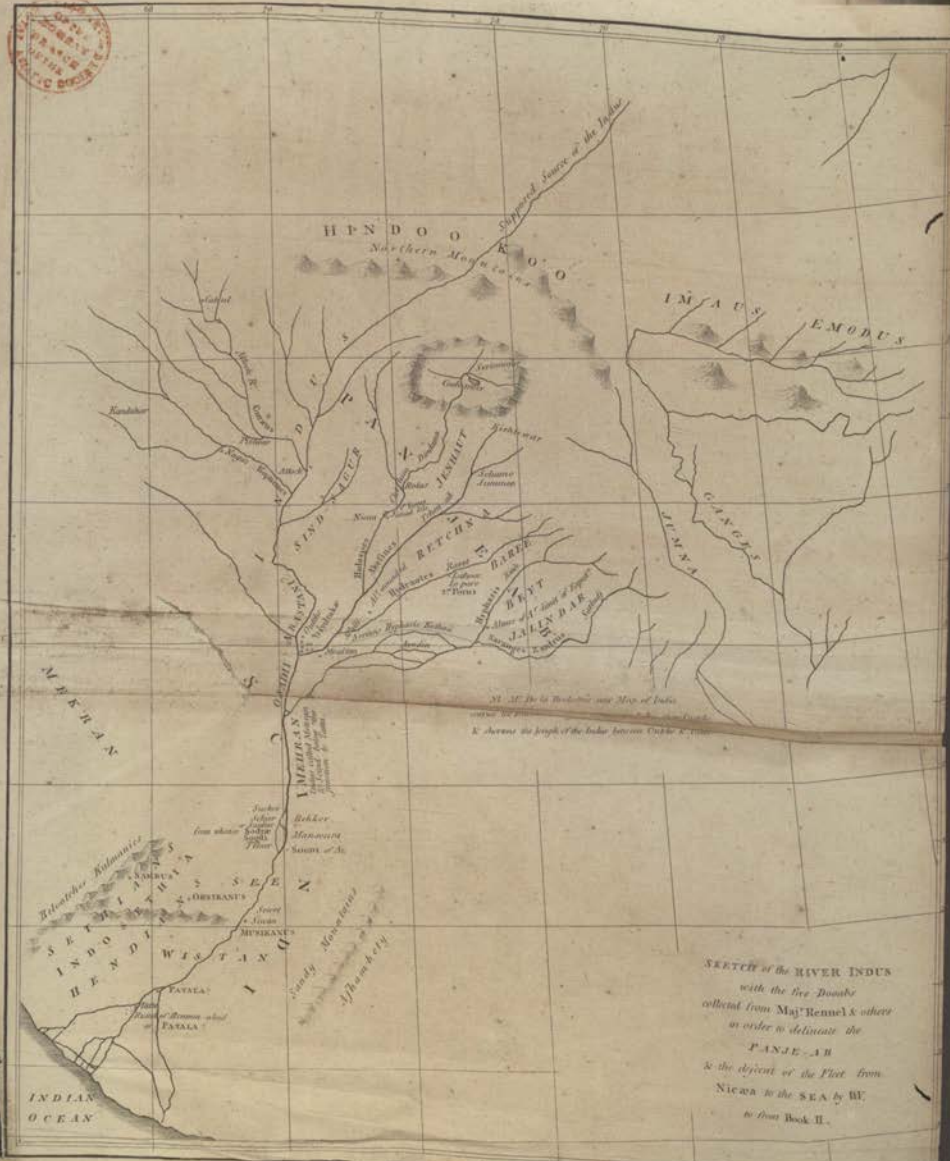
[151] Impoſtors enumerated by Dodwell, Diſ. p. 129, &c.

[152] Lib. vi. c. 25. A promontorio Carmanis junguntur Armozei; quidam interponunt Arbios, CCCCII mill. paſſ. toto littore. In margine, CCCCXXI. I know not whether I render *toto littore* properly; but it cannot depend on *interponunt*.

he

he ſays, *their coaſt is two hundred miles long*. But whatever its extent may be, it is more than ſix hundred miles from this promontory, Armozon. Such is the magnitude of this error. On the contrary, Nearchus places the Arbii, or Arabitæ, between the Indus and the Sommeany; and a Cape Arabah in the neighbourhood ſtill preſerves their name. He ſays, their coaſt is about one hundred miles long; and ſo we find it. He mentions Armozeia as a diſtrict of Karmania; it continues ſo to this day. He marks the low tract on the coaſt and the mountains inland; ſo do the beſt geographers and travellers [153] at the preſent hour. Where there is ſo much information on one ſide, and a total want of it on the other, it is not difficult to form a judgment upon the merits of either party.

[153] Pietro della Vallé.


HINDOO KOO
Supposed Source of the Indus
Northern Mountains
IMAUS
EMODUS
PANJAB
SINDUS
SUEVI
GANGES
JUMNA
MEKRAN
INDIAN OCEAN
SETHUS
SEE
Sandy Mountains
SKETCH of the RIVER INDUS
with the five Doaabs
collected from Majr Rennel & others
in order to delineate the
PANJAB
& the descent of the Fleet from
Nicæa to the SEA by Hr
to from Book II.

THE

VOYAGE

OF

NEARCHUS.

BOOK II.

From NICÆA to the MOUTH of the INDUS.

I. *Geography of the Panje-ab, or Country on the five Eaſtern Sources of the Indus; Wealth of the People; Population.*—II. *Order of the five Rivers.*—III. *Oxydracæ, Malli, Abaſtani, Oſſadii.*—IV. *Sogdi, at Behker.*—V. *Muſicanus, Oxycanus, Sambus in Sewee, or Sihwan.*—VI. *Pattala and the Pattalene*; *Tatta conſidered both as a Province and the Delta of the Indus.*—VII. *Progreſs of Alexander to the Weſtward.*

THE country denominated the Panje-ab[1], from the five ſtreams which water it, was, till within theſe few years, leſs known in Europe than almoſt any other of the provinces which compoſe the Mogol empire; but the tranſlation of the Ayeen Akbari has at

[1] Panje-ab; Rennell.

length removed the obſcurity, and admitted us into a knowledge of the ſituation, diviſion, revenues, and population of the provinces, the geography of the country, and the courſe of the rivers, with a degree of preciſion which reconciles the accounts of the beſt ancient geographers, and corrects the errors of the moderns. To the encouragement given by the Eaſt India Company, and the induſtry and abilities of the gentlemen employed in its ſervice, we owe this excellent work, among a numerous collection of others, which are tending faſt to diſpel the gloom that hung over the mythology of the Hindoos, and the hiſtory of their conquerors. And whatever revolutions may hereafter attend our own commerce or empire in the Eaſt, theſe ſources of knowledge opened to the world are an acquiſition not ſubject to viciſſitude, but will perpetuate the honour of all who have been concerned in the patronage or execution of them, as long as the Engliſh language ſhall be read.

This Regiſter of Hindoſtan, compoſed by Abu'l Fazil the miniſter of Akbar, commented as it is by Major Rennell, will form the baſis of the following geographical reſearch; and though it may not be perfectly correct in all its parts, its general correſpondence with the claſſical hiſtory of the Macedonian conqueſts is ſuch, as to eſtabliſh inconteſtably the fidelity of Arrian and Strabo; and aſſure us that we have, in their writings, the report of perſons actually partakers in the expedition.

Another work has been conſulted, that of Tieffenthaler, a German, and a miſſionary of the Romiſh church, long reſident in Hindoſtan, publiſhed by Bernouilli at Berlin, and commented by Anquetil du Perron. This miſſionary evidently poſſeſſed the language, and drew from the ſource of Ayeen Akbari. His work contains much

ſolid

ſolid information [2]; but it is ſo ill put together by the editor, and accompanied with ſo much other matter not always pertinent to the ſubject, that it cannot be either read or extracted with facility.

From theſe and other ſources of information it appears, that the Panje-ab is ſtill [3] one of the richeſt countries of Hindoſtan; and though both its wealth, population, and power are doubtleſs exaggerated by the Greeks, it is reaſonable to allow that they were all ſuperior, at the time of the Macedonian conqueſt, to any period of proſperity, ſince the Tartars of different tribes have haraſſed the country with invaſion, or reduced it by conqueſt. It is not poſſible to aſſert that there had been no invaſion of this ſort previous to the age of Alexander; for in the account [4] of the Kathæi there is evidently an appearance of Tartar [5] manners [6], as well as a ſuſpicion, from their name of a relation to the inhabitants of Kathai [7]; there are likewiſe inſtances of Chiefs, not Hindoo, reigning over Hindoos; and the account of ſeveral little independent republics, which frequently occurs, beſpeaks ſomething that is more characteriſtic of Tartar than Hindoo policy. Notwithſtanding, however, theſe ſhades of difference, the aggregate of the tribes appears perfectly Hindoo, from the time that Alexander paſſed the Indus, till his return to the Oritæ on the ocean.

[2] The work conſiſts of three volumes. The firſt contains Tieffenthaler; the ſecond, Diſquiſitions by Anquetil du Perron; and the third is a Tranſlation of M. Rennell's Memoir, firſt edition.

[3] Previous to the irruption of Nadir Shah. From that period the Mogol empire can hardly be ſaid to exiſt.

[4] Rennell ſuppoſes them to be the Kattry, or Kuttriri tribe.

[5] Not only in their ſuperior courage, but in their manner of defence, conſiſting in a triple row of waggons.

[6] They bear one ſtamp of Indian manners; *i. e.* they burn their widows. Strab. p. 699.

[7] Kathai was a name brought into Europe by our early travellers, who entered Tartary on the north of Aſia, and always found a Kitai, Kathai, &c. See Carpin. Rubruquis, in Bergeron's Collection.

It is confeſſed on all hands that Hindoo policy, both civil and religious, favours population, agriculture, and commerce; and though it will be ſaid, upon the authority of Arrian himſelf[8], that the Macedonians found no gold in India, if it is a fact, it can only be alleged to prove, not the want of wealth, but of the actual metal. But the fact is ſuſpicious; for the fable[9] of gold turned up by ants proves the exiſtence of gold in the country; and the tribes weſtward[10] of the Indus ſubject to Perſia, as early as the reign of Darius, paid their tribute[11] in gold. Be this, however, as it may in reſpect to gold, the wealth of the people in thoſe early ages is ſelf-evident, from works ſtill extant of the moſt extraordinary magnificence. Their temples, excavations, and public buildings, not to be ſeen without aſtoniſhment by foreigners, and by the natives attributed to the agency of ſupernatural[12] powers, all beſpeak a command both of labour and riches, which can be rivalled only by the illuſtrious relics of the Egyptians.

This teſtimony of wealth and power is in all probability long anterior to the age of Alexander, and not in the country viſited by him; but in his age, at the ſources of the Indus, we obtain ſuch authentic evidence of ſuperior riches and population, as cannot be contemplated without aſtoniſhment. Greece itſelf was one of the moſt populous countries of Europe; and whatever country could,

[8] Lib. v. p. 201.

[9] Some modern naturaliſts have ſuppoſed that the white ant, the monſter of his genus, if he met with a vein, might turn up gold. But the tale of the ancients muſt be a fable. Oneſicritus ſaw not the ant indeed, but his ſkin; it was as large as a fox's.

[10] Arrian hardly allows the tribes weſtward of the Indus to be Indian.

[11] Herodotus, lib. iii. p. 246 and 249.

[12] The age of Anakim (as Mr. Bryant very juſtly ſtyles it), antecedent to all hiſtory, ſtill exhibits its magnificence in every country where it is ſought for; from the Pyramids of Egypt to the Druidical maſſes in Britain.

If we attribute their works to natural power, their numbers are incredible; if to mechanic power, their knowledge is equally incomprehenſible.

from its appearance, ſuggeſt to Greeks an idea of ſuperior population, muſt exceed in this reſpect all ordinary calculation.

That they did exaggerate in attributing five thouſand cities as large at Cos [13], to the territories overrun by the Macedonians, is paſt doubt; yet that the view of the country itſelf ſuggeſted this exaggeration is likewiſe manifeſt. But let us conſider the country of Porus at the time it was invaded by Alexander, and before the enlargement of his power. It conſiſted apparently of what the Ayeen Akbari calls the Doo-ab [14] of Jenhat, or the tract between the two rivers Hydaſpes and Akeſines, not more than forty [15] miles wide at a medium, and from an hundred to an hundred and fifty miles long. Out of ſuch a territory as this, without [16] allies, Porus raiſed an army conſiſting of four thouſand horſe, three hundred chariots, and thirty thouſand foot, under his own command, beſides an advanced party under his ſon, of an hundred and twenty chariots, with two thouſand horſe, making at the loweſt, with due allowance for thoſe employed about the chariots and elephants, forty thouſand [17] men. And if we now compare this force with the country which was to raiſe, ſupport, and maintain it, what judgment ought we to form of the population of India? Porus, however, was only the head of one out of many tribes in this country of the Panje-ab; Abiſſares, a powerful Chief, lay on the north; the Glauſæ, on the eaſt; a ſecond Porus, on the Hydraotes or Ravee; and the Kathæi lower to the ſouth, between that river and the Hyphaſis: adjacent to theſe,

[13] See ſupra; and the extraordinary reading in Pliny. Cominus for Co minus.

[14] Doo-ab, two rivers or waters.

[15] Strabo ſays it contained three hundred cities! Lib. xv. 698.

[16] Embiſares; the Abiſſares of Arrian was to join him, but failed. Diodor. lib. xvii. p. 229.

[17] Diodorus ſays fifty thouſand. Ibid.

Sopithes;

Sopithes; with the Malli towards the mouth of the Hydraotes; and the Oxydracæ, at the angle between the Akeſines and the Indus; beſides the Abaſtani and Oſſadii, for whom we can hardly find a ſcite.

Small as the territory of theſe ſeveral tribes muſt have been, the numbers recorded of thoſe who ſubmitted, who were ſlain or ſubdued, excites our incredulity at every ſtep; and little remains but, after due allowance for exaggeration, to admit a population of the greateſt magnitude poſſible.

Numbers to this extent, ſurpaſſing thoſe of Greece, and equalling thoſe of China [18], depended, as far as we can judge, not upon that abominable practice of expoſing children, legaliſed [19] in both thoſe countries; for this is a ſyſtem that ſeems never to have entered into the conception of Indian legiſlators, civil or religious. Exiſtence, however lightly prized by Indian principles [20], appears to have multiplied faſter by the mildneſs of government, ſecurity from oppreſſion, and the encouragement of maxims political and moral, than by any of thoſe infringements on the law of nature; and though perhaps

[18] The population of China calculated at two hundred and forty millions by P. Mailla, and that of Japan by Kæmpfer and Thornberg, may make us indulgent to the extravagance of the Greeks. If the cities and towns of China ſtand as thick throughout the empire, as on the canals navigated by the Engliſh, from the Yellow River to Pekin, it does not appear how there can be ſpace for agriculture to feed them. See Æneas Anderſon. See alſo the accounts of the Jeſuits in Du Halde. Lettres Edifiantes, &c. &c.

[19] In Greece a parent was allowed to expoſe every child; in China every female, and every third male. The legiſlators ſeem to have removed the obſtacles to marriage, by holding out an immunity from the burden of a family, and to have truſted to the affections of nature for rearing one. Their policy appears to have anſwered in theſe two inſtances. But population is not to be purchaſed by outraging nature, however anxious all legiſlators may be to promote it.—I aſk pardon,—not all. For the legiſlature of France has diſcovered that population may be too great, and has in conſequence taken effectual meaſures to diminiſh it. The diſcovery is imputed to Mirabeau.

[20] It is an Hindoo ſentiment, that reſt is better than action, ſleep better than reſt, and death beſt of all.

too

too much is always imputed to the purity of remote ages, and we value too highly ſyſtems, the defects of which we can no longer diſcover, it will not be thought unreaſonable to attribute great effects to Indian policy and manners, and ſtill greater to the ſecurity of life and property: in ancient times at leaſt, theſe were as complete in practice as the theory appears in the Gentoo code, or the inſtitutes [21] of Akbar. To this it may be objected, that a tribe of military forms one part of the Hindoo ſyſtem; and that war implies oppreſſion. Againſt this, however, the ſame code provides a remedy. The produce of the field, the work of the artiſan, the city without walls, and the defenceleſs village, are declared ſacred and inviolable [22]. Thoſe only who uſed the ſword were to periſh by the ſword. I find in Bernier one inſtance of this Hindoo law reduced into practice by the Mahometan family ſtill reigning; which occurred, when Aurungzebe was contending with his brothers for the empire. If I could have found in ancient hiſtory that the practice and the theory were in uniſon, I ſhould have thought it a ſufficient ground to account for the wealth and population of the richeſt nation upon earth. To prevent war is impoſſible; but to ſtrip it of its terrors by adopting ſomething ſimilar to this, as a law of nations [23], is a ſubject for the contemplation of the legiſlator, of the philoſopher, and of every individual, moral or religious.

[21] The mode of letting the lands and fixing the tribute is one of the moſt curious ordinances in the Ayeen Akbari.

[22] See alſo Arrian. Ind. p. 325.

[23] This was a favourite idea of Dr. Franklin's, who obtained ſome articles of a ſimilar tendency to be introduced into a treaty between America and Pruſſia. Unfortunately for the theory, they are two nations leaſt likely of all others to try the effect practically.

We no longer eat our conquered enemies, like the New Zealanders or native Americans; we do not murder them, like the Lacedæmonians; or reduce them to ſlavery, like the Romans. Increaſing knowledge, mutual fears and conveniencies, morality and religion, have contributed to aboliſh theſe practices. What great refinement of ſpeculation is there in carrying this ſyſtem ſtill farther?

I have entered upon this diſcuſſion in order to vindicate the claſſical hiſtorians from the charge of falſehood, by accounting in ſome meaſure for the numerous tribes with which this country ſwarmed. Another cauſe of this may be found in the nature of the country itſelf; for the five ſtreams which water it are navigable, during the ſummer ſeaſon at leaſt, a thouſand miles [24] from the mouth of the Indus; and the Chelum or Hydaſpes is ſaid to extend this navigation two hundred miles higher into Caſhmeer, from which province there is a communication with Thibet, Boudtan, and Tartary.

The weſtern ſources connect with Candahar and Cabul; but as theſe are not our concern at preſent, it will be ſufficient to notice that Lahore on the Ravee, the principal city of the Panje-ab, is the centre [25] of an immenſe commerce between that country and Dehli; and that one of the more eaſtern branches either did communicate [26], or was intended to communicate, by means of a canal, with one of the ſources of the Ganges, and muſt have formed an inland navigation not exceeded perhaps by thoſe of China. Theſe circumſtances are ſufficient to prove the commercial ſpirit of the country; and, in conſonance with this, Abu'l Fazil informs us, that forty [27] thouſand veſſels were employed on the Indus, which, even in the decline of commerce, are ſaid by Captain Hamilton to be two hundred tons burden, and the moſt convenient he had ſeen for the accommodation of the paſſenger and the merchant.

[24] Ten degrees, by the opening of the compaſſes, from the mouth of the Indus to the ſouthern mountains of Caſhmeer. Rennell makes it, by the river, eight hundred miles to Moultan. By the ſame eſtimate, we might reckon four hundred to Caſhmeer, and two hundred above the mountains.

[25] Previous to Nadir Shah.

[26] Rennell.

[27] Tavernier, Thevenot, Goez, Bernier, Tieffenthaler, Rennell, &c. &c. all unite in teſtifying the magnitude of this commerce.

If ſuch has been the ſtate of commerce [28] under the empire of the Mahometans, it is but reaſonable to aſſume a much more flouriſhing appearance of it in the early ages, while the Hindoo policy was in full vigour, uninterrupted by foreign intruders, and unremitting in its encouragement and protection of the people. The population is one proof of this, and the fleet collected by Alexander is another. The wealth [29] he accumulated from his conqueſt is no where ſpecified; but Maghmoud [30] the Ghaznavide tyrant, the earlieſt Mahometan invader of whom we have an hiſtorical account, is repreſented as enriched with ſuch an enormity [31] of plunder as to make the ravages of Timour and Nadir Shah appear moderate.

The revenue of all theſe provinces or ſoobahs, as ſettled by Akbar, is exhibited in the Ayeen Akbari; but large as they are, both eſſentially and relatively, they appear reaſonable in compariſon of the ancient accounts, whether Greek or Hindoo; and theſe accounts, though exaggerated, have doubtleſs ſome foundation in fact. All theſe provinces were overrun by the Macedonians, except Caſh-

[28] This ſoobah is very populous, highly cultivated, and exceedingly healthy. Ayeen Akb. p. 32. vol. ii. The revenue is 559,458,423 dams, which, at forty dams to the rupee, is equal to 1,748,307 l. ſterling, from a country about three hundred and forty miles long, and one hundred and ſixty in breadth.

[29] There is a paſſage in Q. Curtius and Athenæus which deſcribes three hundred beaſts in the train of Alexander laden with treaſure, in which it appears as if the conqueror had carried with him the plunder of Perſia out of mere oſtentation. But if this aſſertion has any foundation, it ought to be the conveyance of the Indian treaſures; a circumſtance ſimilar to the accounts of Nadir Shah. This fact, however, as ſupported by no hiſtorian of credit, is utterly dubious.

[30] The ſcite of Ghazna has been determined only within theſe few years by Mr. Forſter. See Rennell's Mem. p. 114. And from its proximity to Paropamiſus, the mountains of Candahar, his army probably conſiſted of Aghvans, the ſame tribe that put an end to the Dynaſty of the Sefis in Perſia, ſo late as one thouſand ſeven hundred and twenty. The commander of that invaſion wrote his name alſo Maghmoud like the Ghaznavide; it is probably the provincial dialect for Mohammed.

[31] Maurice.

meer [32], the paradiſe of the Hindoos, conſiſting of a large valley in the northern mountains. But Lahore, Moultan, and Tatta [33], which form the modern ſoobahs, are the ſcene of thoſe tranſactions we are now to enter upon. That we may diſplay theſe in their proper light, and be enabled to follow the operations of the fleet, it is neceſſary firſt to ſhew the ſeries of the rivers which Mr. d'Anville has miſtaken [34], and which muſt be reduced to order before a clear view of the expedition can be obtained. In the performance of this ſervice, I follow the authority of Mr. Rennell, not merely by retailing his Memoir, or commenting on his Map, but by ſhewing that our ancient authorities are conſiſtent with truth.

PANJE-AB, OR PANJ-AB.

II. THE five rivers of the Panje-ab, which fall into the Indus, are in their order commencing from the weſt, the Hydaſpes, the Akeſines, the Hydraotes, the Hyphaſis, and the Saranges. Beſides theſe, Arrian, from Megaſthenes, brings the Sinarus into the Hydaſpes, the Tootapus into the Akeſines, and the Neudrus [35] into the Saranges; but of theſe two laſt he profeſſes to ſpeak with diffidence, as they were not ſeen by the Macedonians; and the Sinarus and Tootapus are

[32] Abiſſares is ſuppoſed by M. Rennell to be the Chief of a tribe in the northern part of the Doo-ab of Jenhat, called Kakares. But there is nothing very repugnant in ſuppoſing him Chief of Caſhmeer. He ſent preſents to Alexander, but never came in perſon. And if he dwelt beyond the mountains, that may be a reaſon why the conqueror did not invade his country.

The whole of this is mere conjecture I allow; but as the initial Ab intimates his territory to be on a river, by ſearching for the etymology of *Iſſar*, I am ſatisfied his reſidence would be diſcoverable.

[33] Tatta was united with Moultan by Akbar.

[34] There is no real authority but Rennell's Perſian map, the Ayeen Akbari, and Chereffeddin. Fraſer, Hanway, and Jones's Nadir Shah will afford little aſſiſtance to an inquirer. Hanway is total error.

[35] It is not quite evident whether into the Saranges or Akeſines.

mentioned

mentioned no more. Of theſe five ſtreams the Akeſines is the principal, being joined by the Hydaſpes on the weſt, and by the Hydraotes from the eaſt, receiving alſo (as Arrian aſſerts) both the Hyphaſis, Saranges, and Neudrus, from the eaſt, before it falls into the Indus. Ptolemy cauſes no ſmall confuſion, both to his commentators, and to Mercator who has framed his maps, by giving the preference to the Hydaſpes, and making the name of that river prevail over the others. But Arrian maintains the honour of the Akeſines, aſſerting expreſsly, that all the others loſe their name on uniting with him; and that he preſerves this pre-eminence till he joins the Indus. This is the more probable, becauſe the modern Chen-ab, his repreſentative, claims the ſame privilege [36] to the preſent day.

But if Ptolemy is miſtaken in one particular, he is in harmony with Arrian and Strabo in giving the ſame ſeries or ſucceſſion; and Pliny, who drops the mention of ſome intermediate ſtreams, has nothing contradictory to their order. In this reſpect, therefore, ancient geography is uniform; and if the moderns diſſent, either from one another or from conſiſtency, we muſt impute their miſtake to that abundance of appellations which all theſe rivers ſeverally obtain, either in different parts of their courſe, or from being mentioned by various names in various languages, Mogol, Tartar, Perſian, or Hindoo.

The Hydaſpes is the firſt in order, correſponding with the modern Chelum, and flowing between the Indus on the weſt, and the Akeſines on the eaſt. The variety of names cannot be better exemplified than in this inſtance. Ptolemy will ſerve however, not leſs upon this occaſion than on all the others, as the point of connection between

[36] Tieffenthaler. Ayeen Akbari.

the

the Macedonian orthography and the Shanſkreet, diſperſing light on both ſides, and ſhining himſelf like a luminary in the centre.

Hydaſpes,	—	Arrian, Strabo, Pliny, &c. &c.
Bidaſpes,	—	Ptolemy.
Beduſta,	—	Shanſkreet, according to the Ayeen Akbari.
Vetaſta,	—	Shanſkreet, Tieffenthaler.
Dindana,	—	below the mountains of Caſhmeer, Tieffenthaler.
Chelum,	—	Perſian or Mogol, Cheref-eddin.
Zalam, Jalam, Djalam,	}	Forſter, &c.
Zeloom,	—	between Aurungabad and Rotas, Tieffenthaler.
Jamad,	{	from an iſland ſo named in one part of its courſe, Tieffenthaler.
Behut,	—	Hindoſtan, Ayeen Akbari.

Such is the catalogue, conſiſting of twelve [37] names for a ſingle ſtream, and ſufficient to account for any error in conſequence of their variety; but Zeloom, Zalam, Jalam, Djalam, Chelum, are the ſame ſound confuſed by the Perſian Dj. Dindana is a name in one part of its courſe, and Jamad in another. Behut is the appellation

[37] La diverſité que l'on remarque dans les differens auteurs, ou ecrivains, où il eſt mention de ces rivieres, a de quoi étonner, et n'eſt pas une médiocre embarras pour quiconque veut debrouiller cette matiere. Differens noms à la même riviere ont contribué à y mettre de la confuſion. Eclairciſſemens ſur la Carte de l'Inde, p. 28.

See in conſequence, the error of this great geographer. In the ſame page he ſays, the Shantrou ſucceeds the Tchen-av; and afterwards, the lower part of the Shantrou bears the name of Jamad, from an iſle of that name in the river. Now in reality the Shantrou and Tchen av are the ſame, and Jamad the iſle is in the Hydaſpes, or Chelum.

uſed

uſed by the Mogols; evidently connected [38] with the Beduſta or Vetuſta of the Shanſkreet, the Bidaſpes or Hydaſpes of the Greeks, all dependent on the relation between the vowels A and U in Oriental orthography, or on the connection of the conſonants B and V with the aſpirate.

This ſtream is made the Indus of Arrian by d'Anville [39], and vitiates his whole ſeries in conſequence. But it is too clearly defined by the Ayeen Akbari to admit of any future error. According to that regiſter it riſes in Caſhmeer, and is navigable by veſſels of two hundred tons quite up to Syrin-nagar, the capital of that province. Where Arrian would bring his Sinarus into this ſtream, whether from the eaſt or weſt, whether within the limits [40] of Caſhmeer, or below the mountains, is undiſcoverable; but his authority is from Megaſthenes, and not from the Macedonians. Neither knew any thing of Caſhmeer; and yet in Sinarus I think that I trace ſome relation to the Syrin-nagar [41] river, as it is called, within the limits of that province. However this may be, the river, after paſſing the mountains and deſcending to the Pergunnah of Shoor, joins the Akeſines or Chen-ab, and twenty coſe [42] lower receives the Ravee, or Hydraotes,

[38] All ſounds received by the ear, and committed to writing, differ. What is more apparently different than the French Taiti and the Engliſh Otaheite? Compare them, and the reſemblance is clear. Ta-ee-tee, o-Ta-hee-tee.

[39] And carried into the Attock, which is the real Indus, without joining the Akeſines. See his Map, Ane, 1. Partie. et Antiq. Geograph

[40] It ſhould rather ſeem below the mountains; for he ſays *in Oxydracis*, Outche. But there is no river there but ſuch as we are acquainted with.

[41] Nagar, nagur, nagoor, is a general termination, like poor, patam, &c. as Chandernagur. Sri nagar is therefore the town, fort, or city, on the Syrin.

Syrin and Sinar, Sinarus, approximate ſufficiently; and why not Abiſſinarus for Abiſſares?

[42] The principle of the coſe is found in the Ayeen Akbari, vol. ii p. 213. The breadth of eight barley-corns huſked

makes	—	1 inch.
24 inches	—	1 cubit or duſt.
4 duſts	—	1 dund.
1000 dunds	—	1 coſe.
4 coſe	—	1 jowjun.

But

draotes, at Zufferabad; when the three ſtreams united, after a farther courſe of ſixty coſe, form a junction with the Indus at Outche, the Oxydracæ of the Macedonians. This is the account of the Ayeen Akbari, differing indeed from Arrian, as will appear when we come to mention the Akeſines. From the ſame authority we learn, that the Doo-ab, or tract between the Indus and Hydaſpes, is ſtyled Sind-ſagur by the Mogols; and its breadth is eſtimated at ſixty coſe, or an hundred and fourteen miles. The medium of this breadth is, as far as I can diſcover, taken at the point where the road croſſes the Doo-ab, and as ſuch, is to be eſtimated in the accounts that follow. The whole breadth of the Panje-ab, including all the Doo-abs from the Indus to the Satludj, is given at an hundred and eighty coſe, or about three hundred and fifty[43] miles; the ſpecific meaſures make the coſe an hundred and eighty-five.

Cheref-eddin's account does not differ[44] much from the Ayeen Akbari; for he mentions, that the Chelum riſes from the fountain Vir, or Syrin-nagar, and after paſſing the mountains, takes the name of Dindana[45] and Jamad. It then paſſes into the Genave, and above Moultan both join the Ravee, which paſſes a ſecond Moultan.

But the coſe varies in India, as the mile or league in Europe. The royal coſe is the ſhorteſt, and the ſtandard for military menſuration. Tieffenthaler reckons thirty-two coſe to a degree; and Rennell, p. 5, values a coſe at one mile and nine-tenths, *i. e.* one hundred coſe is equal to one hundred and ninety miles. Tieffenthaler, who wrote in Latin, ſtyled theſe *milliaria*. The coſe is probably a very ancient meaſure, and, according to Strabo, marked as the miles were on the Roman roads. See d'Anville Meſ. Itinen. and the term κεσραιοι. I doubt, however, whether it is Hindoo. See a curious treatiſe on Indian meaſures. Lettres Edif. tom. xv. 173, et ſeqq. If I could find any Shanſkreet account of a meaſure equivalent to Arrian's ſtadium, I ſhould conclude he had uſed the ſtadium, as Tieffenthaler adopts the mile.

[43] Ayeen Akbari. Tieffenthaler.

[44] Only in reſpect to the Biah.

[45] That the Dindana and Chelum are the ſame appears, vol. iii. p. 156. Cheref-eddin.

The

The united ſtream is afterwards joined by the Biah, and the whole body falls into the Indus at Outche. The mention of two Moultans accords with our knowledge of the ancient Malli and modern Moultan; and it is remarkable that Cheref-eddin [46] ſhould agree with Arrian in making the Hyphaſis or Biah join the Chen-ab before that river joins the Indus.

The ſecond river is the

Akeſines of -	—	Arrian, Strabo, Pliny, Q. Curtius, &c.
Chen-ab, -	—	Hindoſtan, Ayeen Akbari.
Jen-aub, -	}	Perſian, Rennell.
Chen-aub, -	}	
Gen-ave, -	—	Cheref-eddin.
Tchen-av, -	—	d'Anville.
Tchan-dar-Bargar,	—	Shanſkreet, Tieffenthaler.
Chun-der-Bahka,	—	Shanſkreet, Ayeen Akbari.
San-da-Bala, -	—	Ptolemy.
Shan-trou, -	—	Bernier, d'Anville.

The mere inſpection of theſe ten names will ſhew the relation of them ſeverally, as connected by the ſyllable Tchen, except the Akeſines; and I cannot help thinking but that it is an error of the ear, or owing to a deſire of mollifying a barbarous ſound, that the Greeks wrote Ake-ſin-es for A-chen-iſes, or [47] A-ceſin-es for Ab-tchen-es. I find a tribe on this river, mentioned by Juſtin [48], ſtyled Hia-cen-ſanas, in which the prevailing ſyllable is preſerved;

[46] See Cheref-eddin. vol. iii. p. 161.

[47] Keſin for Ctchen or Djen, conſidering that the Greeks have no Ch in their language, is as near as they could approach to the ſound.

[48] Lib. xii. c. 9.

and the initial letter, coming to us through the medium of the Perſian Dj, cauſes all the variety exhibited in Djen, Djan, Tſchan [49], Tſchen, Chan, Chen, Chin, Jen, Gen, Tchun [50], Chun, Shan, San. It is to the credit of Ptolemy that he preſerves this ſound; and whether we take his San-dab-ala from San-ab, or Chan-ab, or the whole Sanda-bala from Chanda-bahka, the correſpondence with the Shanſkreet is equally viſible. The Ayeen Akbari [51] aſſerts, that Chunder and Bahka are two ſtreams which iſſue from the ſame mountain in the range called Cutwar or Kiſhtewar, which unite their waters and their names, and in the latter of theſe, I conclude, we are to look for the Tootapus [52] of Arrian, which, from the authority of Megaſthenes, he brings into the Akeſines at an early part of his courſe.

The Akeſines is confeſſed, both by ancients and moderns, to be the principal of the Panje-ab ſtreams, and his reception of the Hy-

[49] There is a term Dsjienk, which occurs under a variety of forms as an adjunct to rivers in Mekran and Suſiana. (See Chereffeddin, vol. ii. *ſub fine*. Otter, vol. i. p. 409.) From what language derived I know not; but from its frequent recurrence, it aſſuredly ſignifies a *river* or *water*. Whether Tſchen, Chen, &c. are related to this ſound, which is expreſſed Kienk, Chienk, Dienk, Denke, &c. I dare not pronounce, but I ſuſpect a relationſhip between the two; and if this ſhould admit of proof, Tſchen is *the river*, in ſome ancient dialect, with the addition of the Perſian Ab, which ſignifies the ſame. Tſchen-ab is therefore only River, River. It is an hypotheſis of many etymologiſts, that all names of rivers are in ſome original language expreſſive of water. (See Whitaker's Hiſt. of Manchester) And if ſo, Tſchen-ab is perfectly ſimilar to our own uſage, when we ſay the river *Dee*, or the river *Avon*, for both by interpretation are, River, River. On this ground it might be argued, that Ab-Tſchen and Tſchen-ab are equivalent; and that Arrian's Akeſines is only Ab-Keſin, Ab-Keſn, Ab-Chen, that is, Chen-ab reverſed. I do not inſiſt on this, as I tread on Oriental ground with heſitation; but I ſtate it as a problem for reſolution, by thoſe who are better verſed in Eaſtern learning.

[50] The Perſians generally pronounce *a*, before *m* or *n*, like *u*. Frazer, Nadir Shah, p. 72.

[51] Tieffenthaler, Rennell.

[52] I aſſume this form, rather than follow the Latin orthography of the Greek diphthong, in hopes of obtaining more readily an Oriental etymology. Tootapus is Toot-ab.

daſpes or Chelum from the weſt, with the Hydraotes or Ravee from the eaſt, is confirmed by all. Whether he receives the Biah and Satludj alſo, or whether they join the Indus without communicating with the Akeſines, is ſtill a geographical problem. Arrian[53] every where aſſerts, that the Hyphaſis, Saranges, and Neudrus, that is, the Biah, Satludj, and Caul, join the Akeſines, either by themſelves or by the intervention of the Hydraotes. But the Ayeen Akbari brings them independently[54] into the Indus, conſiderably below Moultan; and this is the authority of M. Rennell[55]. Tieffenthaler, if I underſtand him right, is not conſiſtent with himſelf; for in one place[56] he agrees with Rennell and the Ayeen Akbari, in another he makes the Biah and the Satludj join the Ravee. M. Rennell is juſtified in preferring the authority of the Ayeen Akbari to Arrian, as Arrian confeſſes himſelf that, beyond the Hyphaſis or Biah, he has no poſitive[57] evidence to rely on, and he does not follow his Macedonian guides, but Megaſthenes[58]. Mr. de la Rochette has adhered to d'Anville in this particular, and, in the diſpoſition of Ayjodin with the parts adjacent, accords better with Cheref-eddin's march of Timour, than any other arrangement I have ſeen. It is extraordinary that d'Anville, who is more likely to err on the ſide of etymology than by a neglect of it, ſhould not

[53] PP. 236. 240. 249. 252. Lib. vi. p. 238. et ſeq.

[54] Rather by implication than directly. See vol. ii. p. 136.

[55] Probably with the addition of his Perſian MS. Map.

[56] Vol. i. p. 118, compared with p. 115.

[57] P. 316.

[58] Megaſthenes was ſent into India by Seleucus, and reached the court of Sandracota. I am miſled by etymology, or I diſcover the name of a city, and a prince denominated from that city, in Sandracota. It appears to me to be only Santrou Cotta, the town or city on the Shantrou.

have obſerved that Shan-trou [59] reſted upon the ſame root as Shan-ab, his own Tchen-av; but I have mentioned this error too often.

The prerogative of this river, in preſerving its name till it joins the Indus, has been already noticed; and Arrian adds, that it is the only ſtream of the Panje-ab not fordable at any ſeaſon of the year, which all the others are, after the ceſſation of the rains. The province, or doo-ab, between the Hydaſpes or Chelum and this ſtream, is called Jenhut [60], and its breadth is eſtimated only at twenty coſe, or about ſix-and-thirty miles; although we are here to look for the kingdom of Porus, and a population which could produce an army of forty thouſand men. Extravagant as this may appear, it is confirmed by the Ayeen Akbari; for in an age when we have ſuppoſed the population to be diminiſhed, Abu'l Fazil aſſerts, that the quota of troops for Jenhut is three thouſand ſeven hundred and thirty horſe, forty-four thouſand two hundred foot, with a revenue of 203,164 l. ſterling.

The third river is

The Hydraotes of	——	Arrian.
Hyarotes, -	——	Strabo, Q. Curtius.
Iyrawutti [61], -	——	Shanſkreet, Ayeen Akbari.
Ivaratti [61], -	——	Shanſkreet, Tieffenthaler.
Rhuadis, -	——	Ptolemy.
Adris, Adaris,	——	Commentators of Ptolemy.
Ravi, Ravee,	——	Perſian, or Hindoſtan.

[59] I have not met with the name Shantrou except in Bernier and d'Anville; but I have no doubt of its being a native corruption from Chandr ab, Chander-av, Shandrav, Shantrav, Shantrow.

[60] Ayeen Akbari, p. 132. Theſe names are all Mogol diſtinctions, aſſigned by Akbar.

[61] The tranſpoſition of the ſyllables in proper names, ſo often appealed to in this work, cannot be better exemplified than in theſe two words, both being profeſſedly from the Shanſkreet.

From

From this catalogue it is apparent that the termination Ravatti, Rawatti, or Rawutti, furniſhes the Rhuadis of Ptolemy, and the Ravee of the moderns, as Iyrawutti is the Hyarotes of Strabo, and the Hydraotes of Arrian. It is better known at preſent as the river of Lahore, which renders the error of d'Anville more extraordinary, in placing Lahore [62] on the Akeſines, a city of almoſt equal celebrity with Dehli itſelf. The roads from Cabul, Candahar, Attock, and Moultan, all unite at Lahore, as a centre between each of them reſpectively and the capital: and the celebrated avenue extending upwards of three hundred miles from this city to Dehli, which exiſts perhaps no longer except in the page of hiſtory, beſpeaks not merely a communication, but the importance of the intercourſe, and the numbers, as much as the luxury, of thoſe who travelled by this route. The communication on the weſt from Nicæa to this city, explored by Alexander, is probably ſtill open. For though the road from Attock paſſes [63] at preſent through Rotas in a more northerly line, as I ſhall hereafter ſhew the relation between Jamad and Nicæa, a ſovereignty at that iſland, whether tributary or independent, would naturally open a road from thence to a capital like Lahore; and a line from Attock drawn through Jamad being more direct than through Rotas, it is not impoſſible that it was the more early means of intercourſe. That Alexander really reached Lahore, and that it exiſted in his time, there is ſome degree of proof; for the name written at an early period Lehauer [64], was ſtill more anciently Lack-onore and Lo-pore; and Onore [65], Pore, being terminations ex-

[62] See the Map prefixed to the Antiquité Geographique des Indes; but by his Map of Aſie, primiere partie, it is evident he ſuppoſes the Akeſines to be the modern Ravee.

[63] Rennell.

[64] Ayeen Akbari. Tieffenthaler, vol. i. p. 102.

[65] Onoor, Can onoor, Melia-poor, Nurſer-poor, &c. &c.

preſſive

preſſive of a city or fortreſs, will afford a reaſon why Alexander found one Por-us on the Hydaſpes, and a ſecond on the Hydraotes, both deriving their name from their government, as Taxiles from Taxila, and both loſing their native diſtinction by an omiſſion of the Greeks. In Lo-pore therefore, the original name of Lahore, there is ſome ground for conjecture that we have the city of the ſecond Porus; and the antiquity of this place is confirmed by a remark of Tieffenthaler's, that one of its twelve gates is ſtill called Taxili; he ſays it is on the weſt; and doubtleſs the road paſſing through it led to the Taxila of the Macedonians, as the Cabul and Dehli gates lead to thoſe cities. Bernier came from Dehli to this city in the ſuite of an Omra attendant upon Aurungzebe, and had he been as curious in collecting hiſtorical and geographical matter as his knowledge of the Perſian language qualified him to be, much information might have been derived from him; but his page is filled with accounts of Mogol grandeur, and the only material circumſtance he relates of Lahore is, its decline in conſequence of the Ravee having changed its courſe, and now running at ſome miles diſtance; a fact confirmed by Tavernier, and perhaps not unuſual with rivers[66] that overflow with periodical rains. Tieffenthaler mentions a canal which has ſince been cut from the river to the city, but whether it has in conſequence recovered its ſplendour is very dubious. It was ſtill a place of importance in Nadir Shah's time, but betrayed into his hands; and is now in poſſeſſion of the Siks[67],

[66] The Indus itſelf, below Moultan, exhibits the ſame phænomenon almoſt every year. See *infra*.

[67] The Siks equally diſown Brahma and Mahomet. They profeſs equality and the worſhip of one God. Their ſect is numerous; but the doctrine of equality prevents their union, and renders their efforts weak and deſultory. Mr. Haſtings.

the

the deiſts and democrats of Hindoſtan in the preſent age. Chereffeddin, whoſe geography is correct, wherever he attends Timour, is miſtaken in confounding the Biah and the Ravee, an error which I could not be convinced he had committed till I found that he placed Lahore[68] upon the Biah. The Ravee, according to Bernier, is as wide as the Loire, but this dépends upon the ſeaſon when it is ſeen; the veſſels, however, built upon it at Lahore are large, and fit for the ſea[69], not indeed from their manner of building, but their bulk and capacity.

The province between the Chen-ab and the Ravee is called Retchna, and is thirty coſe in breadth.

The fourth river is the

Hyphaſis of -	—	Arrian.
Hypaſis, -	—	Pliny, lib. vi. 17.
Hypanis, -	—	Strabo, lib. xv.
Beaſcha, -	—	Shanſkreet, Tieffenthaler.
Beypaſha, -	—	Shanſkreet, Ayeen Akbari.
Bibaſis, or Bipaſis,	—	Ptolemy.
Beah, Bea, Beand, Biah,	—	Perſian or Hindoſtan.

The Bipaſis of Ptolemy is, upon this occaſion, once more the centre of relation between the Beypaſha of the Shanſkreet and the Hyphaſis of the Macedonians, who conſtantly fix the limits of their expedition at this ſtream. The error of Mr. d'Anville, who makes this ſtream the laſt of his ſeries, has unfortunately betrayed Ber-

[68] Vol. iii. p. 154. French edition. Timour was not at Lahore himſelf; he paſſed into India on the ſouth, and returned on the north of it; but he plundered it by his lieutenants, ibid.

[69] Ayeen Akbari, vol. i. p. 191.

nouilli,

nouilli, Tieffenthaler[70], and de la Rochette, into the adoption of his ſyſtem. This is the more extraordinary, as they all acknowledge the Setledj; and yet could not diſcover that the fourth ſtream, whatever it ſhould prove to be, muſt be the boundary of the expedition.

This river[71] riſes in the Pergunnah of Shoor, from that part of the northern range called Keloo, and joins the Setledj or Satludj, near Feerouzpoor. Below the junction, the ſtream is divided again near Ayjodin into four branches called Har, Haray, Doond, and Noorny. Theſe four unite once more as they approach Moultan, and, according to Rennell, fall into the Indus about fifty miles below that city. Arrian, as has been already noticed, brings them into the Chen-ab or Akeſines, whoſe authority is followed by de la Rochette. What modern confirmation of this he has found I do not diſcover, except Cheref-eddin[72], whoſe evidence indeed is direct; for the Ayeen Akbari, though it ſeems by implication to favour Rennell's opinion, fails of preciſion at the very moment it is moſt wanted. Between the Ravee and this river, Alexander ſubdued the Kathæi, but in a poſition lower down than the courſe of the road from Lahore, as I collect from Strabo's confounding of the Kathæi[73]

[70] Tieffent. vol. i. p. 53; but contradicts himſelf, p. 55.

[71] Ayeen Akbari, vol. ii. p. 136.

[72] The evidence of Cheref-eddin would be perfect if Timour had been on the ſpot, or if the author himſelf had not confounded the Ravee with the Biah. But from his mention of both in this place, as an evidence of report, it is ſtill very ſtrong. The river of Caſhmeer, he ſays, takes various names, as the Dindana and Jamad, and joins the Gen-ave (Chen-ab) above Moultan. When they have paſſed Moultan, they receive the Ravee, which paſſes by a ſecond Moultan. Enſuite le fleuve Biah les joint, et tous auprès de la ville d'Uncha ſe jettant dans le grand fleuve Indus nommé Abſend, *i. e.* Ab-ſend, fleuve Send, ou Scind.

Cheref eddin plainly marks two Moultans here. Is it a fluctuation between the province and the city? or are we to ſuppoſe there were different heads of the district like the towns of the Malli in the time of Alexander?

[73] Καθαίων. Kathai.

with

with Sopithes,' who was evidently near the junction of the rivers, wherever that may hereafter be placed.

Here the troops refuſed to proceed any farther; while Alexander, who had obtained intelligence of a powerful kingdom on the Ganges, ſufficiently correſpondent with the different ſeats of modern empire, was ſtill unſatiated with conqueſt. The mutiny, however, was the diſobedience of Macedonians, grief and ſullen refuſal, without turbulence; and the conceſſions of the king to their requeſts evince, that his diſcrètion was as indubitable as his valour. Here, therefore, he built his altars at the limit of his progreſs, and hence he returned back to the Hydaſpes, on which he was to embark with his troops, and to explore the Indus to its iſſue.

Mr. de la Rochette has placed theſe altars on the Setledj, and at the point where the road from Lahore to Dehli croſſes that river; but they were on the Biah, not the Setledj, and lower down than that road, if the poſition of the Kathæi is right.

The province between the Ravee and the Biah is called Bari, and is only ſeventeen coſe in breadth. The number of troops, which is above an hundred and ſixty thouſand [74], with the magnitude of the revenue, beſpeak a population capable of producing the reſiſtance Alexander [75] experienced in this country. Here was the termination of his conqueſts, and I am not called upon to proceed farther; but as there is only one river remaining to complete the ſeries, it will not be unacceptable to the reader to ſee the connection of the whole.

[74] Ayeen Akbari.

[75] Seventeen thouſand were ſlain at Sangala, the capital, and upwards of ſeventy thouſand were taken in the city. Ar. 227, lib. v. The breadth of this Doo-ab is meaſured by the road, but the province itſelf is conſiderable.

The fifth river is the

Saranga, or Saranges, of	—	Arrian.
Hefudrus, - -	—	Pliny.
Zadadrus, Zaradrus[76], Zardrus,	—	Ptolemy.
Schatooder, Shetooder,	—	Shanfkreet. Ayeen Akbari.
Satludj, - -		Tieffenthaler.
Setlooge, - -		
Satluz, - -		
Setlej, Setledge, - -	—	Rennell.
Seteluj - -	—	Perfian. Hindoftan.

In the Shetooder of the Shanfkreet we find the Hefoodrus of Pliny, and in the Satludj or Satluz, the Zardrus of Ptolemy. Anquetil du Perron informs us, that Zardluz is the proper orthography of this name in Perfian, and that this word written in Greek characters would be neceffarily Zardrus. The fource of this ftream is far to the north-eaft, in the mountains of Ghaloor; defcending from which, it runs to Feerouzpoor, where it receives the Biah, and with that falls either into the Chen-ab or into the Indus itfelf, as already noticed. Arrian mentions a river called Neudrus, which joins the Saranges[77], but without any attributes to enable us to difcover what it is. It may be the Caul, which, according to de la Rochette, is derived from the Setledj, and falls into it again; or, according to others, has a feparate fource, and joins the Setledj from the north-eaft. As Arrian profeffes his doubt of every thing beyond the Hyphafis, and we are not concerned in reality with the Setledj at all, it is not neceffary to purfue the inquiry. I fhall only add,

[76] Here is another tranfpofition of the fyllables.

[77] Perhaps rather into the Ravee.

that

that Ptolemy joins the Zardrus with the Bipaſis, that is, the Setledj with the Biah, and brings their united ſtream, not into the Indus, but the Chen-ab [78].

The province between the Biah and Setledj is ſtyled Beyt Jalindhar, in breadth fifty coſe.

Such is the detail of the five rivers; and when the Ayeen Akbari calls them ſix, either in the province of Lahore or Moultan, it always includes the Indus, without any reſpect to the Setledj, as conſiſting of two ſtreams. It will be of ſome importance to geography, by this enumeration of names, to prevent future miſtakes; not that I apprehend I have completed the catalogue, for it is probable that future travellers, in croſſing this country in different latitudes, may collect many more local appellations, but an outline is drawn which may be filled up as future diſcovery ſhall afford the means. No conſequence, indeed, will attach to this ſecondary object; but it is a matter of curioſity, at leaſt, to connect the Macedonian appellations, diſfigured as they are, with the native names of rivers, and to give a ſpecimen of what may be purſued to advantage by thoſe who are proficients in Oriental learning.

But after conducting theſe five ſtreams individually into the Indus, ſome general obſervations are neceſſary to complete our purpoſe. The ſources of all the ſtreams which fall into the main channel of the Indus are to the ſouth of that great ridge called Hindoo Khoo, which ſeparates Tartary from Hindoſtan; the Indus itſelf, according to Major Rennell and the Ayeen Akbari, cuts that chain [79], like the Ganges and Burhampooter: its ultimate ſource is

[78] This will not appear either in Ptolemy or Mercator's Map, becauſe he makes the Hydaſpes prevail over the Akeſines, and therefore the ſtream he brings them into is called the Hydaſpes, and not the Chen-ab, or Akeſines.

[79] Arrian aſſerts the contrary. Lib. v. p. 199.

ſtill unknown. The chain of mountains coming from Candahar, the Paropamiſus of the ancients, and the ſeat of the modern Agwhans or Afghans, takes a ſweep to the north as far as Cabul, and furniſhes thoſe ſtreams which fall into the Indus from the weſt. If this chain is cut by the Indus, it towers again on the eaſtern ſide of that river, and, dividing itſelf to encircle Caſhmeer, emits the Chelum or Hydaſpes from its northern ridge, while its ſouthern chain ſends forth the Akeſines, Hydraotes, and Hyphaſis. The mountains which cover Caſhmeer on the eaſt appear to branch again into two ridges, called by Cheref-eddin Tchamou, and by the moderns Jummoo, between which the route of Timour lies in his return [80] from Dehli, and within which, it is probable, the ſources of the Setledj will be found.

The rains which fall in theſe mountains ſwell all the rivers which join the Indus from the weſt, or from the eaſt, about the ſummer ſolſtice [81]; and from this circumſtance both Alexander and Timour, who planned a ſummer campaign, experienced all the inconveniences of winter. The limits of theſe rains may be fixed at Moultan; and from Moultan, the Indus, like the Nile, flows towards the ſea through a country rarely refreſhed by the genial ſhower or nutritious dew, and condemned to everlaſting ſterility [82], except a narrow margin which is moiſtened by the ſtream.

[80] This is the reaſon that on his return we find him at the Genave, (Chen-ab,) without notice of the more eaſtern Panje-ab rivers.

[81] The rains ceaſe in October, and a cold north wind blows five or ſix months. Bernier. No rain in Scindi. See Strabo, lib. xv. p. 691, who ſays, the rains in the higher country begin early in ſpring, and laſt till the ſetting of Arcturus (autumn).

[82] The country on both ſides the Indus is hardly capable of cultivation at any diſtance from the ſtream. On the ſtream itſelf we find paſtures and herdſmen; but beyond theſe paſtures, on the eaſtern ſide, is a deſert terminated by the Sand mountains, the reſidence of the Aſhambetees or Jams. On the weſtern ſide, another deſert extending to the range of rocks inhabited by the Belootches.

In

In conducting the navigation of the fleet through this deſert tract, it is difficult to find a ſituation for the tribes which Alexander found to conquer. Some ſcattered lights are to be collected from the Ayeen Akbari, d'Anville, and Rennell; but unleſs we can ſuppoſe a better government and greater induſtry to have produced a ſuperior population, to that which modern accounts will juſtify, the conqueſt[83] muſt have been of ſmall importance to the conqueror.

If I could hope for health and leiſure to attend this conqueror through his ſeveral campaigns, I am perſuaded that the geographical accuracy of Arrian, whenever he follows Ptolemy and Ariſtobulus, is as demonſtrable to the weſtward of the Indus, as towards the eaſt; but with that at preſent we are not concerned. My intention has been to prove, that the ſeries of rivers in the Panje-ab is the ſame in Arrian, Ptolemy, and the Ayeen Akbari, and that the names preſerved in Ptolemy are all correſpondent to the Shanſkreet. This is what the demonſtration required, at a period when the Shanſkreet was the native language, unmixed by foreign communication, and uncorrupted by Greek, Tartar, or Perſian invaders. I conclude, therefore, that the following enumeration is verified:

Arrian.	*Ptolemy.*	*Shanſkreet.*
Hydaſpes,	Bidaſpes,	Bidaſta, or Beduſta,
A-keſin-es,	Sandabala,	Chandar-Bahka,
Hydraotes,	Rhuadis,	Iyrawutti,
Hyphaſis,	Bipaſis,	Beypaſha,
Saranges,	Zadadrus,	Shatooder, or Satludj.

[83] Behker and Sewee only occur in this tract. Their relative value is conſidered hereafter.

NIKAIA, OR NICÆA.

III. AFTER eſtabliſhing the ſeveral rivers with their mutual connection and relation, let us return to the Hydaſpes or Chelum, to ſearch for the poſition of Nicæa. The diſcovery is not difficult; for though the preſent road from Attock to Lahore croſſes the Chelum at Rotas, and it would have been agreeable to the plan already laid down to have conducted Alexander by this route, we are directed by Arrian with ſo much preciſion to another point, that we can hardly be miſtaken. On a bend of the Hydaſpes, he ſays, there is an iſland ſurrounded by the river, with a ſecond branch, or artificial canal, on the eaſtern ſide. Below the ſouthern point of this iſland, and the reunion of the river, Porus had drawn up his forces on the eaſtern ſide; Alexander, leaving Craterus with a conſiderable body of forces oppoſed to Porus, marched in the night to effect a paſſage, under cover of this iſland, to the oppoſite ſhore. He embarked himſelf in a galley, and conveyed his troops in boats brought over land from the Indus. He had ſcarcely diſembarked them, when he found himſelf encircled by another channel, which, being ſwelled by the ſolſtitial rains, he forded with great difficulty; then, turning to his right, he followed the courſe of the ſtream, and, after defeating the ſon of Porus, advanced to the ſpot where the king himſelf had drawn up his forces oppoſite to Craterus. Here the battle was fought, and here muſt be the ſcite of Nicæa [84].

[84] Major Rennell, in his Memoir, p. 93, concludes that Alexander paſſed the Chelum at Rotas; but in the accompanying map places Nicæa lower down - - 28 miles.
Jamad, by de la Rochette, 60 miles.
by Rennell's firſt Map, 65 miles.
by Rennell's ſecond Map, 28 miles.
Arrian ſays, Alexander marched one hundred and fifty ſtadia from his camp to the iſland; by a rude calculation I make it nine miles. As the ſtadium of Arrian has already been made to appear very indefinite, I can only ſay it is not here the ſtadium of eight to a mile; for if it were, Alexander muſt have marched twice 18 miles, tranſported an army acroſs a river, and fought two battles, in the ſpace of about eighteen or twenty hours.

The

The diſtance from his camp on the weſtern ſide of the river to the head of the iſland is given by Arrian, and may be eſtimated at nine miles. If, therefore, we can find an iſland in modern geography which will correſpond with this of Arrian, we have a preciſe point given, and have only to fix Nicæa at the requiſite diſtance below. Such an iſland is found, and ſituated on a bend of the Chelum or Hydaſpes, about twenty-eight miles below Rotas, and in a more direct line between Attock and Lahore than Rotas itſelf. The road probably paſſed at this place in earlier times, and has been diverted to Rotas only becauſe the iſland afforded a ſtrong poſt, which in India is always a ſource of exaction. This iſland is called Jamad by de la Rochette, and by Major Rennell in his ſecond Map; in his firſt Map it contains a fort named Shah Buldien's Fort, equivalent, I conclude, to Cheref-eddin's [85] Chehabeddin. It is remarkable that Chehabeddin [86] ſhould oppoſe the progreſs of Timour, at the diſtance of ſixteen centuries, almoſt in the very ſpot where Porus had encountered Alexander. From the reſiſtance of Chehabeddin, it may be preſumed that the iſland has the advantage of high ground and woods, as deſcribed by Arrian; and that it was a place of importance [87] in Timour's time cannot be doubted; for the river, in this part of its courſe at leaſt, took the name of Jamad, and if there was a road to it from Attock, there conſequently was another from this fort to Lahore.

[85] Vol. iii. p. 48. French edition.

[86] Chehabeddin Mobarec etoit prince d'une iſle de la riviere de Jamad. Il avoit un grand nombre de domeſtiques et d'officiers, et il etoit puiſſant en bien et en meubles. Cheref-eddin, tom. iii. p. 48.

To this the tranſlator, Petis de la Croix, ſubjoins a note.

Jamad. Riviere pres de l'Indus. C'eſt la ſuite de la riviere de Dendana, qui vient de Cachmir.

[87] And p. 49. Se confiant à la force de ſon iſle, qu'il croyoit inacceſſible.

Nicæa being the point at which the voyage commences, I ſhall ſettle the longitude and latitude of this place by Mr. Goſſelin's method of correcting Ptolemy; and as it is one object of this work to reconcile ancient geography with modern, the ſyſtem of Mr. Goſſelin is worthy of conſideration.

His ſyſtem I am not bound to adopt in all its parts, neither do I believe that the geography of Eratoſthenes was founded, as he aſſerts, upon an earlier and better hypotheſis, whether Chaldean, Egyptian, or Greek. I have much heſitation alſo in acceding to M. Goſſelin's opinion, that a ſtadium is the ſeven hundredth [88] part of a degree of a great circle, for I reckon it much nearer to a ſix hundredth part, and that on the authority of Mr. d'Anville.

The Olympic ſtadium is uſually eſtimated at ſix hundred [89] Greek feet, and the Greek foot is very nearly equal to the Engliſh. Eight [90] of theſe ſtadia are reckoned equivalent to a Roman mile, and there are nearly nine in a mile Engliſh. But as my authorities are French, the calculation will be more eaſily ſtated in toiſes than Engliſh meaſures. The French toiſe, however, being ſix feet, and the foot French to the foot Engliſh nearly as ſixteen to fifteen, the reduction may be eaſily made by any one who wiſhes to compare it with the

[88] This, however, is ſaid to be the eſtimation of Eratoſthenes.

[89] Some authors make it ſix hundred and twenty-five. D'Anville Meſures Itin. p. 70. See Blair's Geog. p. 67.

[90] Eight one-third according to Polybius, Strabo, p. 322; in which there muſt be ſome error, or ſomething not underſtood.

D'Anville never values this one-third of Polybius in his calculation.

600 feet = $94\frac{1}{2}$ French toiſes.

$94\frac{1}{2}$ × 8 = 756 toiſes. D'Anville's Rom. mile.

$94\frac{1}{2}$ × 9 = 846 + $4\frac{1}{2}$ = $850\frac{1}{2}$ toiſes:

but the mile Engliſh, according to d'Anville, is eight hundred and twenty-ſix toiſes, ſo that nine Olympic ſtadia are equal to a mile Engliſh, and twenty-four one-half toiſes over.

Engliſh mile. Let us obſerve next, that d'Anville reckons ſeventy-five miles Roman as equal to a degree of a great circle, and then let us inquire whether five hundred, ſix hundred, or ſeven hundred ſtadia correſpond beſt with this eſtimate of a degree.

The Roman mile of	75	to a degree produces	56,700 toiſes.
The ſtadium of	500	———	47,250
ſtadium of	600	———	56,700
ſtadium of	700	———	66,150

Hence it appears, that the computation by ſix hundred ſtadia to a degree contains exactly the ſame number of toiſes as the eſtimate by the Roman mile, which in fact it ought to do. Why, therefore, Mr. Goſſelin aſſumes the ſtadium of ſeven hundred to a degree, in order to correct the longitudes of Ptolemy, does not appear.

His ſyſtem is this, that the chart of Eratoſthenes was upon a plain [91], in which his principal parallel paſſed through Rhodes; but the chart of Ptolemy was upon a ſphere, and as he reckoned five hundred ſtadia equal to a degree of a great circle, he allowed four hundred to a degree on the parallel of Rhodes. But Mr. Goſſelin ſays, that Ptolemy ought to have allowed five hundred ſtadia to a degree on the parallel of Rhodes (for that was the eſtimation of Eratoſthenes himſelf), and to have taken ſeven hundred ſtadia to a degree at the equator.

The method Mr. Goſſelin takes in conſequence of this, to correct the longitudes of Ptolemy, is, to multiply the longitude by five hundred, and divide the produce by ſeven hundred, in order to reduce ſtadia of five hundred in a degree to thoſe of ſeven hundred. The ſucceſs of

[91] Mr. Dalrymple approves of plain, or Mercator's charts, and the rule given for calculating the true longitude according to the diminution of the degree of longitude in proportion to the diſtance from the equator.

this experiment is extraordinary; and having explained the principle it it is founded on, I muſt leave the defence of it to Mr. Goſſelin himſelf. This is, however, the mode of calculation in regulating the longitude of the principal places, adopted in the following pages.

It is well known that the latitudes of Ptolemy are more correct than his longitudes; and this aroſe, according to Mr. Goſſelin, from his taking ſeven hundred ſtadia to a degree of latitude, while he aſſumed only five hundred to a degree of longitude. It is not requiſite for me to enter into this queſtion, or to inform the reader that a degree of every great circle is equal; but another difficulty I had to encounter, which was to obtain an accurate ſtatement of the difference of longitude between the Fortunate Iſlands, or Ferro, (which is the firſt meridian of Ptolemy,) and the meridian of Greenwich or Paris, on which moſt of the charts I was concerned with were founded. I referred this queſtion to Mr. de la Rochette [92], whoſe knowledge of the ſcience qualifies him to ſolve problems of much greater intricacy, and his ſolution I have printed in the Appendix [93]. The reſult of it is this, that Ptolemy makes the difference of longitude between Ferro and London twenty degrees, while the real difference, according to Maſkeline's Tables, is 17° 40′ 13″. This is conſequently the allowance to be made; and inſtead of 3° 30′, which Ptolemy gives between London and Paris, the real difference is, 2° 25′ 37″.

With theſe preparations before me, I make the firſt experiment upon Nicæa on the Hydaſpes, that is, the iſle of Jamad in the Chelum, from whence I take the firſt departure of the fleet.

[92] Mr. de la Rochette is the author of a variety of maps publiſhed by Faden; particularly two, one of India and one of the Propontis, which place him high in the rank of modern geographers. He has compoſed alſo a map for the conqueſts of Alexander, which I would have obtained for this work if I had dared to venture on the purchaſe.

[93] See Appendix, No. II.

Ptolemy has not Nicæa in his ſeries, but Bucephala only[94]; as Bucephala, however, is ſuppoſed to have been on the oppoſite ſide of the river, the difference is inconſiderable.

Longitude of Jamad, by Major Rennell,	71° 50′	eaſt of Greenwich.
Longitude of Ferro, - -	17° 40′	weſt.
True difference of longitude between Jamad and Ferro, - -	89° 30′ 0″	
Longitude by Ptolemy, -	125° 30′ 0″	

Mr. Goſſelin's method of correction follows:

Longitude of Ptolemy, $125\frac{1}{2}$

500 ſtadia.

62500

250

Stadia, 700 | 62750 | 89

5600

6750

6300

450

60 minutes.

700 | 27000 | 38

2100

6000

5600

400 reducible to ſeconds.

[94] See Cellarius, tom. ii. 529.

This proceſs I have thought would not be unacceptable, as I have frequently ſtood in need of ſimilar aſſiſtance myſelf; and upon my ſubmitting it to Mr. Wales, ſeeing that 89° 38′ was only eight minutes more than the true difference of longitude, his obſervation was, "That Mr. Goſſelin's method of correction ſucceeded wonder-"fully in this inſtance; but that he did not immediately recollect "whether Ptolemy had any where ſaid, that he aſſumed five hun-"dred ſtadia for a degree of a great circle." For this I have likewiſe ſearched Ptolemy in vain; and am forced to conclude, that it is deduced by inference rather than found by Mr. Goſſelin, and that the inference was formed upon a compariſon of the plain chart of Eratoſthenes, with the ſpherical chart of Ptolemy.

NICÆA.

Longitude by Ptolemy, from Ferro, - -	125° 30′ 0″
Longitude of Ptolemy, reduced to Greenwich, and corrected by Mr. Goſſelin's method, -	89° 38′ 0″
Longitude by Rennell, - - -	89° 30′ 0″
Latitude by Ptolemy, - - -	30° 20′ 0″
Latitude by Rennell, - - -	31° 40′ 0″
Latitude by de la Rochette, - -	31° 30′ 0″

At Nicæa[93], therefore, we fix the departure of the fleet on the twenty-third of October, in the year three hundred and twenty-ſeven before Chriſt. The views of Alexander in preparing the fleet and undertaking the navigation have been ſufficiently noticed

[93] Diodorus makes the departure from the Akeſines. Lib. xvii. 234.

already;

already; but the anxiety which oppreſſed his mind cannot be exhibited better than in the deſcription of Arrian[96], or the language of Nearchus himſelf.

He dreaded, ſays the hiſtorian, the length of the voyage, the danger of a deſert coaſt, the want of harbours, and the difficulty of ſupplies; he was fearful leaſt a failure ſhould tarniſh the ſplendour of his former actions; ſtill, however, the deſire of attempting ſomething new and extraordinary prevailed. But who was to command ſuch an expedition? Who was capable of inſpiring the men with confidence; or perſuading them, that in undertaking ſuch a ſervice they were not abandoned to deſtruction? Such, ſays Nearchus, was the perturbation of Alexander when he ordered me to attend him, and conſulted me on the choice of a commander. "One," ſaid he, "excuſes himſelf becauſe he thinks the danger inſuperable; others "are unfit for the ſervice from timidity; others think of nothing "but how to get home; and many I cannot approve for a variety "of other reaſons." "Upon hearing this," ſays Nearchus, "I "offered myſelf for the command, and promiſed the king that, "under the protection of God[97], I would conduct the fleet ſafe "into the gulph of Perſia, if the ſea were navigable, and the undertaking within the power of man to perform." Alexander heſitated; he loved Nearchus, and admired him the more for the promptitude of his offer; but how could he expoſe ſuch a friend to the diſtreſſes and hazard of ſuch a voyage! Nearchus ſtill perſiſted in his propoſal, and intreated the acceptance of his ſervices. At

[96] Arrian introduces this account after the fleet had reached Pattala; but as Nearchus commanded during the paſſage down the Indus, it is much more probable that the conſultation took place before his firſt appointment than after he was actually in command.

[97] Τῷ Θεῷ. Arrian was the diſciple of Epictetus.

length

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length the king, who had probably conſulted him with the hope that his ſpirit would prompt him to make the offer, conſented, and named him admiral of the fleet. The appointment anſwered his expectation; for the men deſtined to the embarkation no longer conſidered the expedition as deſperate, when they found a man ſo much in the king's favour and confidence was to be the commander, and one whom they knew he would not have expoſed to inevitable danger. Alacrity ſucceeded to terror, the ſhips were equipped, not only with what was neceſſary, but with great ſplendour; the officers vying with each other who ſhould collect the beſt men for the ſervice, and have his complement [98] moſt effective. Succeſs was anticipated, and deſpair ſubdued.

The next concern was the appointment of the officers, and a liſt of names is given which it is evident does not ſpecify thoſe who performed the voyage, but ſuch as had a temporary command only during the paſſage down the river. The amount is thirty-three, which ſpecifies the number [99] of gallies; but of theſe we cannot certify that any circumnavigated the coaſt, except Archias.

MACEDONIANS.

1. Hephæſtion, ſon of Amyntor.
2. Leonnatus, —— Eunus.
3. Lyſimachus, —— Agathocles.
4. Aſclepiodorus, —— Timander.
5. Archon, —— Clinias.

[98] Ἐκπληρώματα.

[99] It is true that Arrian, p. 236, ſays, the Triaconteri were eighty; but under that title, as a general one, he probably includes the Hemioliæ, or half-decked veſſels. The Hemioliæ are half-decked veſſels, according to Gronovius; but Caſaubon ad Athen. lib. v. p. 203, ſays, they were rowed with two banks of oars from the head to the maſt, and from the maſt aft, with one. Not. p. 737.

MACEDONIANS.

6. Demonicus, ſon of Athenæus.
7. Archias, —— Anaxidotus.
8. Ophellas, —— Silenus.
9. Timanthes, —— Pantiades.

Theſe were all citizens of Pella.

10. Nearchus [100], ſon of Androtimus.
11. Lampedon, —— Larichus.
12. Androſthenes, —— Calliſtratus.

Citizens of Amphipolis.

13. Craterus, ſon of Alexander.
14. Perdiccas, —— Orontes.

Natives of Oreſtes.

15. Ptolemy, ſon of Lagus.
16. Ariſtonous, —— Piſæus.

Natives of Eordæa.

17. Metron, ſon of Epicharmus.
18. Nicarchides, —— Simus.

Native of Pydna.

19. Attalus, ſon of Andromenes.

Native of Stymphæa.

20. Peuceſtas, ſon of Alexander.

Native of Mieza.

21. Pithon, ſon of Crateas.

Native of Alcomenæ.

22. Leonnatus, ſon of Antipater.

Native of Ægæ.

[100] Nearchus was a native of Crete, but a citizen of Amphipolis.

MACEDONIANS.

23. Pantauchus, ſon of Nicolaus.
Native of Aloris.

24. Mylleas, ſon of Zoilus.
Native of Beræa.

Thus far the liſt conſiſts of Macedonians.

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25. Medius, ſon of Oxynthemis.
Native of Lariſſa, in Theſſaly.

26. Eumenes, ſon of Hieronymus.
Native of Cardia.

27. Critobulus, ſon of Plato.
Native of Cos.

28. Thoas, ſon of Menodorus.

29. Mæandrus, —— Mandrogenes.
Natives of Magneſia.

30. Andron, ſon of Cabelas.
Native of Teios.

31. Nicocles, ſon of Paſicrates.
Native of Soli, in Cyprus.

32. Nithadon [101], ſon of Pnytagoras.
Native of Salamis, in Cyprus.

33. Magoas [102], ſon of Pharnuches,
A Perſian.

Oneſicritus of Aſtypalæa, Pilot, and Maſter of Alexander's own ſhip.

Evagoras, ſon of Eucleon a Corinthian, Secretary, or Commiſſary to the Fleet.

[101] Nithaphon Gronov.

[102] Bagoas. Gronovius. But why? That eunuch hardly attended the army.

Strabo mentions an Androſthenes of Thaſus, p. 766, who ſailed with Nearchus, but he does not ſay in what capacity; I conclude, however, that it is the ſame Androſthenes who went down the gulph of Perſia to explore the Arabian coaſt. Ar. lib. vii. p. 301.

Inſtead

Inſtead of this barren liſt of officers, many of whom certainly did not accompany Nearchus round the coaſt, and many whoſe names are never mentioned except upon this occaſion, it would have been ſome ſatisfaction, if it were poſſible, to have preſerved the liſt of thoſe who were the real firſt explorers of the Indian ocean; but out of the whole number here enumerated, the only names which occur afterwards in the narrative are thoſe of Archias and Oneſicritus.

If the whole journal of Nearchus is preſerved by Arrian, there is ſome reaſon to complain of the commander for recording all that contributed to his own glory, and to lament that he did not reſcue the fame of his brave followers from oblivion. Hephæſtion, Leonnatus, Lyſimachus, Ptolemy, Craterus, Attalus, Peuceſtas, and probably many others, had evidently only a temporary or honorary command; and the ſilence of Nearchus in reſpect to the others throws a degree of uncertainty over the remainder of the catalogue. Neither does it any where clearly appear what number of ſhips or men accompanied Nearchus to the concluſion of the voyage. If we ſuppoſe the ſhips of war only fit for the ſervice, thirty gallies might poſſibly contain from two to three thouſand [103] men; but this eſtimation of both is uncertain, and in reality too high, conſidering the little means of ſupport they found on the voyage, and the impoſſibility of diſcriminating the fighting men from the mariners.

The mariners were ſupplied from a number of Phænicians, Egyptians, Cyprians, Ionians, natives of the Helleſpont and Ægean

[103] It is poſſible that I may eſtimate the number too high, both here and on the voyage. See Kokala. For the whole fleet, including tranſports, carried no more troops than eight thouſand. The mariners I find no proper data to calculate. At other times, indeed, eighteen hundred horſe and ten thouſand foot are embarked.

iſlands, who had accompanied the army either in a military or mercantile character; neither is it unreaſonable to ſuppoſe that at the oar many of the natives were employed, induced by advantage, or compelled by force; for this, as a ſervice which required little more than bodily ſtrength, the Greeks frequently aſſigned to ſlaves, or thoſe removed but one degree from ſlavery.

The fleet had been built or collected on the Indus, and part of it had been brought over land to the Hydaſpes. The number of veſſels is eſtimated at two thouſand [104] by the hiſtorians, including all ſorts, from the galley to the tender. The collecting of ſuch a fleet has been accounted for already, and the poſſibility of conveying great part of it from one river to the other, will not appear extraordinary to thoſe who are acquainted with a ſimilar practice at the iſthmus of Corinth, or conſider that Alexander was at the head of an hundred and twenty thouſand [105] men, and was poſſeſſed of treaſures, alliances, dependents, and tributaries, ſufficient to command the ſervices of all the native inhabitants of the country, if requiſite.

The voyage down the river is deſcribed rather as a triumphal proceſſion than a military progreſs. The ſize of the veſſels, the conveyance of horſes [106] a-board, the numbers and ſplendour of the equipment attracted the natives to be ſpectators of the pomp. The ſound of inſtruments, the clang of arms, the commands of the officers, the meaſured ſong of the modulators [107], the reſponſes [108] of

[104] Eight hundred ſhips of war and tranſports.

[105] We muſt ſuppoſe ſome extraordinary means requiſite, as the ſpace between the Indus and Hydaſpes is eſtimated at ſixty-eight coſe, or about one hundred and thirty miles. This diſtance, indeed, might be diminiſhed by deſcending the Indus, but we have no data to direct us how far.

[106] It is not improbable that Alexander had ſupplied his cavalry with horſes from the Penje-ab. They are as good as Irakies, *i. e.* Perſian. *Ayeen Akbari.*

[107] Κελευσταὶ.

[108] So Gronovius renders βοὴ.

the

the mariners, the daſhing of the oars, and theſe ſounds frequently reverberated from overhanging ſhores, are all ſcenery preſented to our imagination by the hiſtorians, and evidently beſpeak the language of thoſe who ſhared with pride in this ſcene of triumph and magnificence.

Arrian has given us the breadth of the Hydaſpes and ſeveral other ſtreams which join the Indus, but informs us, he has the authority of Ptolemy for that of the Akeſines alone; that river he eſtimates at fifteen [109] ſtadia, the Hydaſpes [110] at twenty. The Indus, he ſays, was forty at a medium, and fifteen where narroweſt; that in its courſe from the confluence of the Akeſines to the Delta of Pattala it was an hundred, and lower towards the ſea two hundred. By any value of the ſtadium this eſtimate is doubtleſs too high, and the variety of accounts recorded by Strabo [111] gives room for much uncertainty upon the ſubject; the higheſt, he ſays, was an hundred ſtadia, the medium fifty, and the loweſt ſeven. It is evident, therefore, that thoſe who differed as much as ſeven from an hundred, either did not uſe the ſame ſtadium, or did not meaſure the river at the ſame time of the year: but it is remarkable, that if the loweſt number is conſidered as the Olympic ſtadium [112], it correſponds nearly with Mr. Forſter's account of the Indus above Attock, where he croſſed it, and eſtimated it at three quarters of a mile Engliſh [113]. Mr. Forſter paſſed in July when the rains muſt have commenced in the mountains, though they had not reached the lower country; if, therefore, we allow the river to have received ſome acceſſion to its volume, we have a very extraordinary correſpondence between an ancient and a modern account. It would be well if we could reduce the larger numbers of Arrian with as

[109] P. 222.
[110] P. 239.
[111] Lib. xv. p. 700.
[112] Eight to a mile Roman.
[113] Rennell, p. 109.

much facility; but even Mr. d'Anville's ſtadium of fifty-one toiſes, which gives ſomewhat more than ſixteen to a mile Engliſh, muſt here fail us; for fifteen ſtadia would make the Akeſines near a mile broad; twenty would give a mile and quarter to the Hydaſpes; forty would ſupply two miles and a half to the Indus above the confluence; an hundred produces ſix miles and a quarter for the breadth between the confluence and Pattala; and two hundred, twelve miles and an half for its final courſe. Shall we impute this enormity to the amplification of the Macedonians, or to the overflowing of the river? In ſupport of the latter, we have another extravagance of Oneſicritus recorded by Strabo, who ſays, the Indus riſes forty feet, twenty to its banks and twenty above them. but, unfortunately for this aſſertion, the fleet left Nicæa in October, when the ſwelling muſt have been on the decreaſe, and reached Pattala in July, before the next year's ſwelling could be very evident in the lower part of the river. According to Tieffenthaler and the Ayeen Akbari, the Indus between Moultan and Tatta runs in a ſtream comparatively narrow, but very deep, and Hamilton [114] aſſerts, that the channel at Tatta is not more than a mile broad. Arrian's account muſt conſequently be abandoned, unleſs we make a large allowance for the flood, and his language ſeems to juſtify this at the time when he mentions the hundred ſtadia; for he adds, "this is the breadth when it ſpreads [115] its waters moſt." Much

[114] It is very poſſible that the channel from Laribundar to Tatta is leſs at preſent than formerly, for the mouths of the Indus all tend to the accumulation of obſtructions. Hamilton's account is probably juſt.

[115] ᾗ ὑπὲρ τὸν ἑκατὸν τυχὸν ἵνα περιλιμνάζει μᾶλλον.

Perhaps above one hundred ſtadia where it ſpreads the wideſt.

It is reaſonable to conclude, that all the varying accounts of the breadth of the river, which, as Strabo obſerves, fluctuate between ſeven and an hundred ſtadia, owe their diſagreement to the different views of the ſtream, either in its loweſt or its higheſt ſtate. See Arrian, lib. v. p. 200. Cteſias (if Cteſias is any authority) ſays, that the Indus where narroweſt is forty ſtadia in breadth, and where wideſt an hundred, but that in general, a medium between theſe may be aſſigned.

reaſon

reaſon as there is to commend Arrian's accuracy in general, it muſt be allowed that he copied in this inſtance from thoſe who delighted in exaggeration, or choſe to raiſe ideas of magnificence by deſcribing not what the voyagers ſaw, but what at another time of the year they might have ſeen.

The moſt moderate breadth of the Hydaſpes is found where we ſhould leaſt expect it, in Q. Curtius, who ſays that it is four ſtadia, or half a mile, and if we allow, with Mr. Forſter, three quarters of a mile to the Indus above Attock, at a ſeaſon when it was not yet much ſwelled, there is a reaſonable proportion in giving half a mile to the Hydaſpes [116] at a ſeaſon when the ſwelling may be ſuppoſed not entirely paſt.

On this river, at Nicæa, Alexander embarked, carrying on board the hypaſpiſts, Agrians, archers, and the royal troop [117] of horſe. Craterus [118] marched with another body on the right, or weſtern ſide of the river, while Hephæſtion commanded a third on the eaſtern bank. A fourth under the direction of Philip, ſatrap of the country on the weſt of the Indus, followed at three days diſtance in the rear. The troops commanded by Hephæſtion were by far more numerous than the reſt; and he had likewiſe the charge of two hundred elephants, with orders to join Craterus and reduce the territory of Sopithes [119], which ſeems to occupy the angle between the

[116] It is remarkable that Curtius mentions alſo this river—profundo alveo—ſtagnantibus aquis—occultis ſaxis—ſine vado—in medio amne inſulæ crebræ—una inſula amplior cæteris. All accordant circumſtances, and the laſt agreeing with Arrian, though omitted by Diodorus. Q. Curtius, vol. ii. 653.

[117] Ἄγημα ἱππέων, uſed not exactly by Arrian. It ſometimes means all the companions, Ἑταῖροι, ſometimes ἴλη βασιλικὴ, the royal troop.

[118] See the note of Gronovius in loco, upon the diviſion of forces, p. 333.

[119] Strabo and Curtius make Sopithes and the Kathæi the ſame. The ſcite of the Kathæi is known. They were between the Hydraotes and Hyphaſis to the ſouthward of Lahore. Arrian makes them different; but if Sopithes was in the angle between the Hydraotes and the Hyphaſis, Hephæſtion muſt have paſſed two rivers to reach them.

junction

junction of the Hyphaſis and the Akeſines. Having diſtributed the land forces in this manner, Alexander fell down the river for three days to a ſtation, where he halted two more for the troops to join, and then proceeding again for five [120] days, he reached the confluence of the Hydaſpes and Akeſines [121]. The fleet is deſcribed as diſpoſed into different diviſions, with orders to obſerve a due diſtance, that no confuſion might ariſe; and the progreſs by water was regulated to accommodate the motions of the army. With this object in view, we can hardly caſt an eye over the map without adverting to the coincidence of theſe circumſtances with the local geography. The diſtance from the lower point of Jamad to the confluence is from ſixty to ſeventy miles [122], and with three armies moving in ſeparate diviſions, encumbered with plunder, and obliged to make roads or find them, correſponding with the ſinuoſity of the river, eight or ten miles of a right line is fully equivalent to the road diſtance of each day's march. Pliny ſays, the fleet paſſed down the river at the rate of ſix hundred ſtadia a-day. Q. Curtius [123] mentions expreſsly in this part of the paſſage, that the rate was only forty. Freinſhem, in order to reconcile ſo glaring a contradiction, ſuppoſes four hundred [124]; but if ſeventy-five or fifty miles is too much, and ſive is too little, ſome other remedy muſt be ſought. It is true, as Mr. Rennell obſerves of the Ganges, that a paſſage of fifty [125] or ſixty [126] miles a-day is eaſily performed when the river is ſwoln; but this

[120] Major Rennell ſuppoſes only five days from Nicæa to the junction.

[121] Arrian from Megaſthenes ſays, at Cambiſtholi or Aſtrobæ. Which of the two is right ſeems hard to diſcover. See p. 317.

[122] Rennell's firſt map, 75; ſecond map, 70. De la Rochette, 57.

[123] Vol. ii. p. 691.

[124] By reading quadringenti for quadraginta. See Curt. in loco.

[125] Major Rennell, from his Latin Itinerary, ſuppoſes twenty miles a day's paſſage for a boat on the Indus.

[126] Rennell ſuppoſes thirty-eight miles a-day down the Indus, p. 290, ſecond Memoir.

fleet

fleet was to accommodate the army, and no precipitation of this ſort can be allowed. Forty ſtadia, or five miles, continued for eight days, gives indeed only forty miles, but the deficiency is more tolerable than the exceſs, and if it might be permitted to invert the numerals of Q. Curtius, and read LX. inſtead of XL. [127], the repetition of ſixty ſtadia for eight days gives ſixty miles, a diſtance not greatly differing from Rennell's corrected map, conſiſtent with probability, and correſpondent to the ordinary progreſs [128] of an army in ſimilar circumſtances.

The Hydaſpes and Akeſines at their junction are both forced into a channel too narrow for their united ſtreams; the rapid eddies and turbulence which ariſe neceſſarily from ſuch a cauſe afford ample ſcope for the tumid eloquence of Q. Curtius. The more moderate language of Arrian will, at the ſame time it verifies a fact, give greater pleaſure to the reader who prefers truth to embelliſhment.

Where theſe two rivers meet, ſays Arrian, one channel very narrow receives the waters of both. The ſtream becomes violent from confinement, and whirls in eddies terrible to behold. The

[127] This is a conjecture not authorized by the text of Curtius, as given either by Freinſhem or Snakenborck, for both read quadraginta at full length. Whether the manuſcripts they followed have the numerals XL. is not expreſſed; but thoſe who are converſant in Greek or Latin numerals will allow ſome latitude for correction.

[128] The march of Timour from Jamad to the confluence in the very track that the detachment under Hephæſtion ſhould have marched, is thus deſcribed by Cheref-eddin, tom. iii. p. 52. Tranſlation of Petis de la Croix.

'Après avoir achevé heureuſement l'affaire de Chehabeddin, l'on marche *cinq ou ſix* jours, au bord du fleuve Jamad (Hydaſpes), et . . . on alla camper ſur le bord de la riviere de Genavé (Akeſines), a une fortreſſe, vis á vis de laquelle ſe fait le confluent de la riviere de Jamad avec celle de Genavé, *i. e.* the Hydaſpes with the Akeſines.

Five or ſix days march of a Tartar army, with an object in view, is fully equal to the eight days allotted to the Macedonians, whoſe army was moving in three diviſions, and one of theſe under Hephæſtion detached on an expedition.

Lord Cornwallis, in his march from Bangaloor to Seringapatam, moved at the rate of nearly nine or ten miles a-day. See Major Dirom's map.

roar

roar and tumult of the water is prodigious, and heard long before you reach the ſpot. When Alexander approached the confluence, neither he, nor thoſe on board his fleet, were uninformed of theſe particulars; yet, while they were ſtill at ſome diſtance, upon hearing the noiſe and daſhing of the waters, the rowers reſted on their oars, the modulators were ſilent with aſtoniſhment; but as the ſtream carried them nearer, the commanders recalled both to their duty, and directed them to exert their utmoſt ſtrength, that the veſſels might not be caught in the eddies, but puſhed through by dint of force. It turned out, however, that the tranſports from their built, by yielding to the eddy, eſcaped with little injury, except the alarm excited in thoſe on board; but the gallies, which from their length and ſharpneſs were leſs adapted to encounter a danger of this ſort, ſuffered greatly, and ſome, from having two banks of oars and the difficulty of managing thoſe which were nearly on a level with the water, were expoſed to the moſt imminent danger[129]. Alexander's veſſel, however, eſcaped to a projecting point on the right hand ſhore, which covered him from the violence of the ſtream; but he ſaw two of his veſſels ſink, and with difficulty ſaved ſuch of their crews as were able to ſwim. Many more of the gallies were damaged, which cauſed a delay here of ſome days in order to refit them; and while the repair of theſe was going on, Hephæſtion, Craterus, and Philip, joined with their reſpective forces.

Alexander now ordered the corps of Polyſperchon[130], the mounted archers, and the diviſion of Philip with the elephants, to be con-

[129] Les vagues qui ſe forment en ce lieu la font paroitre une mer agitée. Cheref-eddin, vol. iii. p. 52.

[130] Τὴν Πολυσπέρχοντος τάξιν; it was a part of the phalanx.

veyed

veyed over the Hydaſpes, and proceed under the command of Craterus, while he landed himſelf and ravaged the neighbouring territory, to prevent ſuccours being ſent to the Malli. He returned again before the fleet moved, and then ordering Nearchus to fall down the river for three days, he once more formed his army into three diviſions, directing Hephæſtion to be five days in advance, Ptolemy to follow three days march in his rear, and both them and Craterus to join the fleet again at the confluence of the Akeſines and Hydraotes, while with a fourth diviſion he entered the country of the Malli himſelf. It was in this expedition, attended with a variety of circumſtances not connected with our preſent ſubject, that he was himſelf wounded in ſtorming an inconſiderable fortreſs of the Malli. The territory of this tribe naturally ſuggeſts an idea that it may be the ſame as the celebrated province, or ſoobah, which takes its name from Moultan, a city well known for its ſituation and commerce in Europe as well as India.

MOULTAN.

Longitude	°	′
from Greenwich by Rennell,	70	40
add from Ferro, -	17	40
	88	20
from Ferro by Ptolemy,	127	0
Ptolemy corrected by Goſſelin, -	90	4

Latitude	°	′
by Ptolemy, -	31	15
by Rennell -	29	50
by the Turkiſh geographer,	29	30
Etval's, -	29	40[131]

[131] See Otter, tom. i. 407.

According to the rivers of Ptolemy, Caſpira on the Rhuadis ought to be Moultan upon the Ravee; but if it is ſo, his latitude is very erroneous, for he places it north of Bucephala, whereas it is near a degree to the ſouth [132]. The foregoing eſtimation is conſequently liable to all the objections connected with this error.

The fortreſs, however, where Alexander was wounded was not the capital, for it is as certainly on the north of the Hydraotes, as Moultan is on the ſouth. Major Rennell [133] has noticed this with his uſual accuracy, and the teſtimony of Arrian is direct; for he ſays that Alexander, after having paſſed the Hydraotes, returned and croſſed it again after the flying enemy, who threw themſelves finally into the fortreſs where this tranſaction took place. It is remarkable that the boundary given to the province of Moultan by the Ayeen Akbari ſhould correſpond with the limits aſſigned to the Malli by Arrian; for when Abu'l Fazil [134] ſays the Pergunnah of Shoor [135] joins the boundary of Moultan on the north, he evidently ſhews that this ſoobah extends to the north of the Ravee or Hydraotes, and conſequently comprehends the ſpot allotted for the ſituation of this fort among the Malli.

While Alexander was engaged in this expedition, the fleet had reached the confluence of the Akeſines and Hydraotes; and hither, as ſoon as his wound permitted him to be removed, he was conveyed in a galley down the ſtream of the latter [136]. The tranſport of

[132] See Ptol. p. 171, and Mercator's Map Aſia, tab. x.

[133] Second Memoir, p. 97, Major Rennell places this nameleſs fort ten miles from the conflux of the Hydraotes and Akeſines, below Tolomba.

[134] Vol. ii. p. 136.

[135] Shoor lies upon the Chen-ab or Akeſines, near the junction of that river with the Chelum (Hydaſpes).

See in confirmation, Ayeen Akbari, vol. ii. p. 100.

[136] Alexander did not land at the actual junction of the rivers, but at the camp of Hephæſtion, on the Hydraotes, a ſmall diſtance higher up. See p. 252. Ar.

joy with which his troops received him, was ſome compenſation for the dangers he had encountered; and ſo little did the monarch himſelf ſeem to be aſhamed of the temerity with which he had expoſed his perſon, that he is ſaid to have taken a Bœotian ſoldier into his favour, who, in his broad dialect, bluntly applied to him the ſentiment of a tragic poet:

"He that would do great deeds muſt ſuffer greatly."

Here he was joined by the other diviſions of the army, and while he was under cure of his wound he received the ſubmiſſion of the Malli, now humbled by reiterated defeats; and a deputation from the Oxydracæ, offering to become tributaries, and to ſend him a ſupply of men.

The Oxydracæ correſpond both in name and ſituation with the diſtrict ſtill called Outche, which is comprehended in the ſoobah of Moultan, and occupies the angle formed by the junction of the Chen-ab, or Akeſines [137], with the Indus. It is ſomewhat ſingular that Arrian ſhould mention theſe people as cantoned into departments, and their magiſtrates [138] as preſiding in each ſeparate canton, while the moderns diſtinguiſh them to this day by the appellation of the Seven [139] Towns of Outche [140]. Theſe local circumſtances continuing ſimilar through ſo many ages, afford no leſs pleaſure to the inquirer than confirmation to the veracity of the ancient hiſtorians.

[137] Ayeen Akbari, vol. ii. p. 136.

[138] Ἡγεμόνες τῶν πολεων καὶ ὀι νομάρχαι.

[139] See Tieffenthaler, vol. i. p. 118, and de la Rochette's map.

[140] Perhaps the orthography is, Owj. or Oudj. See Ayeen Akb. vol. ii. p. 100.

This tribe muſt have been in a flouriſhing condition, for they furniſhed Alexander with a thouſand men and five hundred [141] chariots, and their territory, with that of the Malli, was added to the ſatrapy of Philip. During the continuance of the army at this place an aditional number of veſſels had been built, and ſeventeen hundred horſe were again embarked, with ten thouſand foot, and a body of light infantry, and the whole ordered to fall down to the confluence of the Akeſines with the Indus. It is here that Arrian mentions the junction of the Hyphaſis with the Akeſines, before that river falls into the Indus. But ſtill he does not mark with his uſual attention where the actual junction takes place, neither does he notice the arrival of the fleet at it, as at the confluences which precede and follow. This omiſſion gives us room to doubt of the fact, and though de la Rochette has followed Arrian and Tieffenthaler in uniting the Biah and the Setledj with the Chen-ab before that river meets the Indus, there is ſtill great reaſon to adhere to Major Rennell, who carries thoſe two rivers with one ſtream into the Indus directly, without bringing them firſt into the Chen-ab. It occurs here likewiſe that the Akeſines preſerves its name after receiving theſe ſeveral rivers, agreeably to what Tieffenthaler obſerves of the modern Chen-ab.

The city of Moultan, anciently called Mulatran, which gives name to this province, and which is ſituated to the ſouthward of the Ravee or Hydraotes, is conſidered as one of the oldeſt in India;

[141] I ſhould rather read πεντηκοντὰ fifty, than πεντακόσια five hundred; but there is no intimation of an error. The number is extravagant.

it

it has a citadel and a wall of brick four miles [142] in circumference. The climate is hot in the extreme, the ſoil a burning ſand, and rain is ſeldom known. A branch or canal from the Ravee, called Monan, approaches within one coſe of the town; the Ravee itſelf is only two coſe diſtance, and the Indus twelve or fourteen. The junction of the Ravee and Chen-ab is diſtant twenty-five [143] miles, and that of the Chen-ab and Indus eighty [144]. It is not impoſſible that a town of the Malli ſhould have occupied this ſcite in the time of Alexander, but certainly not as a capital, or a place of importance; for the Macedonians were more ready to give conſequence to the places they ſubdued, than to detract from them; but local circumſtances by no means diſallow of its being one of thoſe fortreſſes [145] attacked by Alexander upon his firſt croſſing the Hydraotes, and before he recroſſed that river, to the place where he was wounded.

From the junction of the Hydraotes with the Akeſines the fleet now fell down to another ſtation, at the point where the Akeſines with all its tributary waters is united with the Indus, waiting there for the arrival of Perdiccas, who had been employed in ſubduing the Abaſtani. The ſubmiſſion of another tribe named Oſſadii had been received by a part of the fleet which had been built at Xathra and came down the Indus, while Alexander had been deſcending the Akeſines. Of Xathra and theſe two tribes nothing occurs to direct our inquiries but the mention of their names; and in regard to Xathra, the obſcurity is of conſequence; for there is reaſon to con-

[142] Tieffenthaler, vol. i. p. 115. His miles are always coſs; ſo that we may eſtimate the city ſeven or eight miles in circumference.

[143] De la Rochette.

[144] Sixty-five miles. Rennell.

[145] Perhaps Βραχμάναι τινὰ πόλιν, P. 242, Arrian.

clude,

clude, that theſe veſſels which now came down the Indus were part of the fleet originally built on that river, and left there when Alexander tranſported the other part over land to the Hydaſpes. Arrian mentions this diviſion as conſiſting of gallies and tranſports newly built, but it is hardly credible that the whole [146] fleet had been carried over land, and highly probable that part left behind had been augmented at Xathra. If we had any data to fix the poſition of Xathra on the Indus, it would afford great ſatisfaction to prove the length of the line of tranſportation, but Xathra is named only by Arrian, and does not appear in Ptolemy, Strabo, Diodorus, or Q. Curtius.

At the conflux of the Akeſines with the Indus, Alexander fixed the eſtabliſhment of a new city, of which, though we find no traces in modern accounts, we may naturally conſider the ſituation as highly advantageous. A city fixed here would neceſſarily partake of all the commerce that paſſed up the Indus, to be diſtributed by means of the ſeveral ſources above, from Candahar and Cabul on the weſt, to Tchamoo, and perhaps to Thibet, on the eaſt; and being the centre where all theſe ſtreams unite, muſt conſequently derive equal emoluments from the commerce that paſſed downwards to the coaſt. The judicious choice of a ſcite for this Alexandria (for ſuch probably was its name) has been as little noticed by the hiſtorians as imitated by the native [147] powers of India; nothing is found in the

[146] A ſimilar conveyance of veſſels over-land appears, lib. vii. p. 300, from Phœnicia to Thapſacus. Three Quadriremes, twelve Triremes, thirty Triaconteri, divided into parts, and brought over-land by a longer tranſport certainly than from the Indus to the Hydaſpes or Chelum.

[147] Whatever local circumſtances have contributed to the ſituation of Moultan, have united alſo in preventing the growth of a city at this confluence.

Ayeen

Ayeen Akbari to prove the exiſtence of any place of importance [148] at this junction, and the ſilence of travellers and geographers on the ſubject leaves the whole matter in obſcurity.

Alexander remained here ſome time both for the eſtabliſhment of the city, and to regulate the adminiſtration of the provinces, for at this junction he fixed the limits of Philip's ſatrapy, and the commencement of a new one for Oxyartes the Bactrian, father of his wife Roxana, which was to extend to Pattala and the coaſt. Python was joined in the commiſſion with Oxyartes, and Philip was left at this new city with all the Thracians and other troops ſufficient for the defence of the province.

SOGDI. BEHKER.

IV. As we are now to leave the confluences of the reſpective rivers, which have hitherto ſerved to direct us in the poſition of cities, tribes, and countries, a ſcene of difficulties opens which nothing but a deſire of elucidating ancient geography would tempt me to explore at greater length than thoſe who have trod the ſame ground before me. Our materials are ſcanty; for Arrian and Diodorus have only two ſhort pages, Q. Curtius part of one chapter, and Strabo two or three lines. In all of them there is hardly a characteriſtic feature to diſtinguiſh one place from another; time and

[148] No magnificent idea is requiſite to conceive the building of cities in the eaſt. A fort or citadel, with a mud wall to mark the circumference of the Pettah, or town, is all that falls to the ſhare of the founder. The habitations for the natives are raiſed in a few days or hours; and inhabitants are ſupplied either by force, or, if the place is commodious, by inclination. Timour, as well as Alexander, built cities in two, three, or five days. The ſoldan of Egypt inſults Timour, by telling him that the cities of the eaſt are built of mud and ephemeral, ours in Syria, ſays he, and Egypt, are of ſtone, and eternal. Cheref-eddin.

diſtances

diſtances are equally diſregarded by all. Added to this, I feel ſome repugnance in deſerting the guidance of my conſtant director Major Rennell, by fixing the Sogdi [149] at Behker, and Muſikanus at Sewee; but I do this upon the authority of Strabo's brief account, who affirms that the ſeat of Muſikanus's government was very near [150] the Pattalene.

Let us firſt take a view of the country as it exiſts at preſent. The Indus rolls down from the confluence of the Chen-ab or Akeſines to Tatta, four hundred [151] miles in one channel, with hardly a ſingle point to characteriſe one part of its courſe from another, except the iſland Behker. Behker is the termination of the modern province of Moultan; the general term for the tract below is Scindy; the title it bears in the enumeration of the Mogol provinces is the Soobah of Tatta; but in the time of Akbar this Soobah was added to that of Moultan. The Soobah of Tatta is divided into five circars. I. Tatta, the Pattala of the ancients. II. Hajykan, running parallel to the Indus, and extending north far above Behker. III. Sewiſtan, between Behker and Tatta. IV. Nuſſeerpoor, extending eaſt from the head of the Delta; and, V. Chucherhaleh, (as well as I can collect,) extending from the eaſtern mouths of the Indus along the coaſt towards the bay of Cutch. We have therefore

[149] Though I deſert Major Rennell, I have the approbation of d'Anville.

La ville royale des Sogdi, ... ne peut mieux ſe rapporter qu' à Bukor, qui a ſervi de réſidence à des rois de cette contree.

Renfermée dans une iſle deux villes ſur les rives oppoſées Sukor et Louhri l'accompagnent.

Geog. Anc. vol. ii. p. 343.

But d'Anville himſelf is miſtaken about Sindomana, ibid. and Eclairciſſemens, p. 36; Antiq. de l'Inde, p. 32.

De la Rochette follows d'Anville in placing Muſicanus at Sewee.

[150] I believe not *near*, but *next to*.

Πρὸς αὐτῇ δ' ἤδη τῇ Πατταληνῇ τήν τε τῶ Μουσικανῶ λέγουσι, καὶ τὴν Σαβούτου Σινδοναλίαν, καὶ ἔτι τὴν Πορτικανῶ.

[151] Three Hundred. De la Rochette.

two

two principal poſitions on the river, between the confluence and the Pattalene; Behker in Moultan, and Sewee in Tatta. We have likewiſe two governments named in ancient hiſtory, that of the Sogdi and of Muſikanus [152]. I ſhall conſider each more particularly hereafter; but at preſent theſe circumſtances will afford ſome reaſon to conjecture that theſe circars are natural diviſions of the country, and that the reaſon of this diſtribution exiſted as ſtrongly in former times as at the preſent day; if ſo, the ancient tribes ſpecified by the hiſtorians poſſibly occupied the ſame ground as the modern circars.

The nature of the river itſelf will ſuggeſt other reflections, which will tend to throw farther light on the ſubject. For the Indus, although it reſembles the Nile [153] in forming the centre of a valley and watering a country where no rain falls, differs in ſome points more eſſential. The map is crouded with the names of ancient cities and modern villages on the banks of the Nile, while the Indus has only two places of importance, Behker and Sewee, in a courſe of four hundred miles.

The range of ſand [154] hills on the eaſt are the reſidence of the Alſhambety [155], while a chain of rocks on the weſt commences from the ſea, and runs northward nearly parallel with the river till it joins thoſe of Kandahar. All the ridges of Aſia afford ſecurity to tribes of plunderers; thoſe in the neighbourhood of Kandahar are the ſeat of the Aghwans, the conquerors of Perſia and the deſolators of India; and this range from the ſea produces the Belootches, a tribe no

[152] Oxykanus was not on the Indus.

[153] Major Rennell, Poſtſcript.

[154] Ayeen Akbari, vol. ii. p. 145. Tieffenthaler.

[155] Called Jams at Tatta, when Hamilton was there. Jams, robbers from the eaſt: Balouſhes, robbers from the weſt.

leſs ferocious than the Aghwans. This range has likewiſe ſeveral branches; one more particularly that reaches the Indus near Sewee, and another which, I have reaſon to think, forms the boundary between Sewiſtan and Hajikan; and if there were any guide to direct me, I ſhould as readily aſſign Hajikan for the ſeat of the Abaſtani reduced by Perdiccas, as I can nearly demonſtrate that the lower branch in Sewiſtan was the territory of Oxykanus and Sambus.

From this account of the modern ſtate of the river and the country, let us now return to the ancient hiſtorians; the order of tranſactions, allowing for the variation of the narrative, is the ſame in all. I. The Sogdi of Arrian are the Sabracæ of Q. Curtius, the Sambeſtæ and Sodræ of Diodorus. We need not inſiſt on the diverſity of names, for it matters little; but the tranſactions which occurred, the voluntary ſurrender of the place, and the eſtabliſhment of docks and arſenals, are all ſimilar and accordant; and though Diodorus would make the Sambeſtæ and Sodræ diſtinct tribes, his tranſactions are too clear to leave a doubt. II. The Muſikanus of Arrian is the ſame both in name and order as in Q. Curtius, Diodorus, and Strabo. III. The Oxykanus of Arrian anſwers to the Præſti of Q. Curtius, the Portikanus of Diodorus and Strabo. IV. And finally, the Sambus of Arrian has the ſame appellation in Diodorus, and is the Sabus of Q. Curtius, the Sabutas of Strabo. A ſituation is now to be found for theſe four ſucceſſively; and if a reaſonable degree of probability can be aſſigned for placing the three firſt, allowances muſt be made for the ſcantineſs of materials, if it is impoſſible to arrive at demonſtration.

After viewing this queſtion in a variety of lights, I have perſuaded myſelf that the Sogdi were at Behker, Muſikanus at Sewee, Oxykanus

Oxykanus on the weſt of Sewee at the foot of the mountains, and Sambus on that range of mountains called Lukhy which extends from the great weſtern range, and approaches the Indus at Sewee. The proofs or probabilities neceſſary to produce the ſame conviction in others ſhall be adduced as we purſue the courſe of the fleet down the river; but I cannot avoid noticing, that by the moſt curſory view of the map, a fort and dock-yard at the confluence of the Akeſines, the ſame at Behker, with a garriſon at Sewee, and other citadels and docks at the head, and two lower points of the Delta, preſent a line of frontier exactly correſpondent to local convenience, and the very nature of the country.

At the confluence of the Akeſines, Craterus with the elephants and the greater part of the army was tranſported to the eaſtern ſide of the Indus, as the country on that ſide appeared more convenient for the march of an army; and Alexander dropped down with the fleet to Sogdi. The diſtance and the time employed are both omitted by Arrian; but if we place the Sogdi [156] at Behker, the diſtance appears from Major Rennell to be ſhort of an hundred and fifty [157] miles. In the ſame order follow the Sabracæ of Q. Curtius, and the Sambeſtæ of Diodorus; both deſcribe this tribe as living under a republican [158] form of government, and defended by an army of ſixty thouſand foot, ſix thouſand horſe, and five hundred chariots; both ſpecify the ſubmiſſion of this people without a battle, and Diodorus adds, that th Maſſani [159] and Sodræ were borderers on the river, who ſubmitted at the ſame time. In the conſtruction of a citadel and docks at this place [160], all the three hiſtorians agree.

[156] In a right line by the ſcale.

[157] Eighty. De la Rochette.

[158] Arrian ſays expreſsly, τὸ βασίλειον.

[159] Maſſani and Sodræ are perhaps the modern Pekier and Sekier, in Sekier written Suckor and Sunkar; theſe may be the repreſentative of Sogdi and Sodræ.

[160] Q. Curtius mentions an Alexandria four days lower down; but it muſt be referred to this place, as he names no nation or ſcite.

Now though we may allow great ſcope for the amplification of Curtius and Diodorus, we are ſtill to conſider theſe Sabracæ as a tribe of conſequence in the view of the hiſtorians, and I aſk where is a poſition to be found for ſuch a tribe in the courſe of this hundred and fifty miles before we arrive at Behker. Nothing can be more barren of names than the line of the Indus here in Major Rennell, or de la Rochette; and the diſcordance of thoſe two geographers, being no leſs than ſeventy miles, adds ſtill to the confuſion and obſcurity. Another conſideration is, that Behker in the modern diviſion of the province is a circar of Moultan; and where the Dooabeh [161] circars end, that of Behker begins: it follows, therefore, that Behker would neceſſarily be the firſt capital from the junction of the Akeſines, and naturally the ſcite of the Sogdi or Sabracæ, the firſt tribe Alexander reached after leaving that junction.

BEHKER.

Longitude	°	′	″	Latitude	°	′	″
by Ptolemy, from Ferro,	118	0	0	Ptolemy, -	25	20	0
by Rennell, from Greenwich,	70	0	0	Rennell, -	27	33	0
add from Ferro, -	17	40	0	Oriental. Otter,	34	0	0
	87	40	0	De la Rochette,	27	27	0
Ptolemy corrected by Goſſelin,	84	16	0				

I take the Binagara of Ptolemy for Behker, not only on account of its central ſituation between Moultan and Tatta, but its reſemblance in point of orthography, for it is poſſibly Behh-nagar or

[161] A ſpace between two rivers. Doo, two; Ab, water.

Behk-nagar,

Behk-nagar, in which form it approaches Behker-nagar; nagar being the uſual adjunct to expreſs a fortified place, and Ptolemy has in this neighbourhood, Agri-nagara, Ka-nigara, Nagar-anigramma, &c. &c.

According to the modern diviſion, the circar or Dooabeh of Behker contains twelve mahls [162], or places for collecting the revenue, which amounts to fifty-ſeven thouſand five hundred and ſeventy-eight pounds ſterling [163], and furniſhes four thouſand ſix hundred and ninety horſe, and eleven thouſand one hundred foot. Theſe circumſtances are ſtated from the modern account, to ſhew how reaſonably it will bear a compariſon with the ancient, allowing for much exaggeration, and conſidering that India appears more populous in early times than ſince it has been deſolated by invaſions.

It would have been a fortunate circumſtance if any of the hiſtorians had mentioned an iſland here, or in any part of the Indus between the junction of the Akeſines and Tatta; but their ſilence is unanimous. It will appear, however, that we have ſomething more than conjecture to direct us, for Otter names Bekier, Sekier, and Tekier, as three places dependant on Manſura [164]; in which, though he is miſtaken (for Bekier is Behker the ſame as Manſura), he is ſtill right in regard to the other two, for Sekier is the Sunker of the Ayeen Akbari, and Tekier is the fort called in that work Alore, the Louheri

[162] The names of the twelve mahls are the ſame in Tieffenthaler and the Ayeen Akbari. If any one wiſhes to ſee what ſpelling can do to confound, he ſhould conſult both. Tieff. vol. i. 117. Ayeen Akb. vol. ii. 103.

[163] Reckoning the dam forty to a rupee.

[164] Manſura is a city encircled at a diſtance by a branch of the Mehran (Indus). The city itſelf ſtands on the weſtern ſide of the main channel; for the Mehran in its deſcent ſeparates into two ſtreams at Calere, a day's journey from Manſura; the main ſtream paſſes to Manſura;

Louheri of de la Rochette. Tekier is ſituated either at the re-union of the river after its ſeparation to form the iſland, or juſt below it; and Sekier aſſumes a place at the point where the river divides. It is in Sekier, written Sunker and Suckhor, that I find the Sogdi of Arrian, the Sodræ of Diodorus, the Sadracæ of Q. Curtius; and as Sunker and Alore are two out of the twelve mahls aſſigned to Behker by the Ayeen Akbari, this diviſion has given riſe to the diſtinction of them by Diodorus into ſeparate tribes. Some reſerve is neceſſary in aſſerting that Alore and Tekier are the ſame, but it ſeems highly probable, becauſe Tekier is not mentioned by the Ayeen Akbari; concerning Suckhor all teſtimonies are united. I conclude, therefore, that the Sogdi of Arrian comprehend the whole iſland and circar of Behker, and that the name is derived from the firſt place in the circar at which the fleet arrived.

If this ſhould not be deemed concluſive, I beg the reader to ſuſpend his judgment till he receives additional reaſons for fixing the ſeat of Mūſikanus; for the poſition of either to a certainty will give the reſpective ſituation of the other; and I muſt likewiſe obſerve, that the erecting of docks on an iſland is a natural convenience, while there is nothing on the higher part of the river to direct this operation more to one point than another.

Manſura; the inferior turns to the north towards Saruſan, and then winds back again to the weſt [read *eaſt*], till it joins the main channel once more, about twelve miles below the city. Manſura is a mile both in breadth and length. Nub. Geographer, p. 57.

This deſcription has led Mr. d'Anville into a great error, for the whole is repreſented on his map. The error ariſes from his making Behker and Manſura two different places, which the Ayeen Akbari proves to be the ſame; but d'Anville places Behker near four degrees higher up the ſtream, and this Manſura he places below Sihwan. Otter has fallen into the ſame error Vol. i. 406, 407.

Major Rennell makes the iſle thirty-five miles in length, which does not differ much from Al Edriſi's account. Manſura is doubtleſs a Mahometan, and not an Indian title, for it expreſſes *victory* in Arabic. See Melchiz. Thevenot, tom. i. in Abulfedam, p. 19.

From

From this iſland of the Sogdi [165], Craterus was detached into Arachoſia and Drangiana; but as we hear of him again at the next ſtation of the fleet, we muſt ſuppoſe that he only conducted a body of troops which was to penetrate into thoſe countries by another route, and which was to connect again with the future march of the main army through Karmania. This deſign is perfectly conſiſtent with Alexander's ſcheme of exploring theſe provinces by marches in various directions; and it is probable that Craterus went no farther with this body than to mark out the line they were to purſue, and then returned to the main army. The reunion of theſe forces will be noticed in its proper place.

From Sogdi then, the Behker [166] of the Hindoos, the Manſura of the Mogols or Perſians, Alexander haſtened down the Indus to reach the city of Muſikanus, before he ſhould be prepared for reſiſtance. I have already ſaid, that Strabo is my authority for placing Muſikanus lower down the river than Major Rennell; for Strabo ſays expreſsly, that his territory was near, or next to, the Pattalene; and a review of Arrian's account, ſhort as it is, convinces me that, after the tranſactions which took place here are conſidered, the immediate arrival of the fleet at Pattala confirms the aſſertion of Strabo.

[165] It is worthy of remark that the Nubian Geographer makes Manſura a centre of communication both eaſt and weſt, p. 57, et ſeq.; and ſuch it would naturally be in all ages, unleſs the city Alexander built at the main junction of the rivers had taken root.

[166] This iſland of Behker has two dependant places, Tekier and Sekier, ſo written by Otter, vol. i. 409. Frazer writes Buckar for Behker, Sunkar for Sekier. Treaty Nadir Shah. Khoudabad ſeems to be Shicarpoor of de la Rochette's ſheet map.

MUSIKANUS. SEWEE. SIHWAN.

V. I FIX upon Sewee for the reſidence of Muſikanus, becauſe it is the head of the firſt circar of Tatta towards the north; and conceiving, as I do, that all theſe circars have their diviſion or boundaries from nature, I am perſuaded that the ſureſt ground for fixing any ancient name is to conſider the preſent diſtribution of the provinces. Sewiſtan, the name of this circar, comprehends the country on both ſides the river; but on the eaſt there is probably little cultivation, as the tract tends toward the deſert and the ſand hills [167]; on the weſt, there are branches from the mountains extending towards the river inhabited by Belootches, and on one of theſe branches, or at the foot of it, may be placed the territory of Oxykanus, the Portikanus of Strabo and Diodorus. The termination of theſe three names ſuggeſts an idea that they contain ſome alluſion to the country, or ſome mutual relation or connection. What will be alleged on this ſubject I give merely as a conjecture, and I refer it to the Orientaliſts for further illuſtration; but I cannot help thinking that I diſcover the name of the circar in every one of them.

Sewee is written Sevi, Sihouan, Sihwan, and Sehwan. It is not eaſy to eſtabliſh the identity of theſe names to the ſame place; for though our maps make them the ſame, the Ayeen Akbari [168] mentions a chain of mountains extending from Sehwan to Seewee, regarding them as different places though in the ſame circar; and an

[167] Tieffenthaler, vol. i. p. 122. [168] Vol. ii. p. 142.

obſcure

obſcure San [169] marked on the maps is poſſibly a corruption of Sehwan. Be this as it may, Sihwan is an appellation ſufficiently known and acknowledged; and this word, I think, may be diſcovered in Mu-ſihan-us, Ok-ſihan-us, Por-ſihan-us [170], for the aſpirate *h* [171] paſſes into *k* in almoſt all words derived from Oriental languages. The termination is Greek for ſake of inflexion only, and the initial ſyllable will poſſibly be found in the Shanſkreet to convey an idea of the relation in which they ſtand. If the diſtinction between Seewee and Sehwan could be eſtabliſhed, I ſhould have little difficulty in aſſerting, that Moo-ſihwan [172] was the chief of one, and Ok-ſihwan of the other. I am ſenſible etymology meets with little encouragement in the preſent age; but I am likewiſe convinced from much ſtudy of my authors, that all the Indian names which occur in them are capable of being traced to native appellations exiſting at this day among the Hindoos at leaſt, if not the Mogols; and whenever the ſociety in Bengal for Aſiatic reſearches ſhall direct their inquiry this way, they will diſcover more than can at preſent be calculated. I have proved this in regard to the names of the Panje-ab rivers; others have long ſeen it in the Malli, Oxydracæ, Peukaliotis, Guræi; and I am convinced that every name mentioned in the hiſtorians of Alexander will be found either

[169] San may be, however, the Cahan which Tieffenthaler places in this circar, p. 122.

[170] It is remarkable that the reading of this name differs in Q. Curtius. Poſticanus, Porricanus. I aſk for a third reading: Porſicanus.

[171] Han or Ham, the original title equivalent to *Chief* or *Lord*, paſſes into Kan, Khan, Cham, and Cawn. Du Halde. I do not object to applying Kan Khan to Muſi-kanus, if it ſhould be proved that the Tartars had entered India at ſo early a period.

[172] The title of a Hindoo prince who reigned in this circar formerly, and whoſe government extended from Mekran to Cachemire, was SIHAR. Tieffenthaler, vol. i. p. 122. writes Sihan.

In a ſituation lower down, near Birun, appears a diſtrict named *Mou* or Ebnat by Abu'lfeda. D'Anville Eclairciſſemens, p. 39. Who will tranſlate Mou? I ſtate this merely to ſhew that *Mou* is a native term.

in the hiſtory or memory of the Hindoos. I conceive that they exiſt in the Shanſkreet at this hour, though they may be known to Europeans in a different form derived from the Mogols, diſfigured by the lapſe of time, change of language, or variety of writing. I have the opinion of Major Rennell in confirmation of this idea, and his judgment I eſteem deciſive.

If we would now follow Alexander in his deſcent from the Sogdi to the territory of Muſikanus, we muſt apply to modern ſources for information. Arrian gives neither time or diſtance, and mentions nothing of the country through which the Indus rolls; but the maps give us upwards of eighty[173] miles[174] from Behker to Seewee, and the Ayeen Akbari[175] informs us, that the country is a deſert ſubject in ſummer to the Semoom, or ſuffocating wind. The term deſert, however, muſt be qualified; for we are informed that the Indus changes its courſe, inclining ſome years to the eaſt[176], and others to the weſt; and that it is not ſo abſolutely deſert, but that there are villages[177] of herdſmen who change their habitation with the ſtream. This circumſtance, recorded by Strabo, proves the attention of the obſervers, and the fidelity of the hiſtorian; for when we find in Major Rennell[178] that he had ſimilar information from an Engliſh traveller who verified the fact upon the ſpot, we obtain a local characteriſtic fact dependent upon the conſtant operation of nature, which fiction could not invent, and ſcepticiſm cannot doubt.

Muſikanus had ſent no offers of ſubmiſſion to Alexander, but ſurpriſed by his ſudden approach, and not prepared for defence, he

[173] Seventy-five. De la Rochette.

[174] In a right line by the ſcale.

[175] Vol. ii. p. 143.

[176] North and ſouth. Ayeen Akbari. The ſame thing occurs at Behker; which favours the inclination given to the Indus by Major Rennell.

[177] Ayeen Akbari, ibid. Tieffenthaler.

[178] See Rennell's Poſtſcript.

advanced

advanced to meet the monarch upon his arrival, and ſurrendered his city, territory, and elephants, at diſcretion. The readineſs of his ſubmiſſion, and the acknowledgment of his offence, procured him a ready pardon; for upon all occaſions of this nature, the policy and generoſity of the conqueror were in uniſon. He found the territory one of the richeſt [179] in this part of India, and the city ſo commodiouſly ſituated, that he determined to erect a citadel here, and leave a ſufficient garriſon for its ſupport.

Even in the comparative wealth of this place I find reaſon to think Muſikanus muſt be fixed at Seewee rather than Behker, for the comparative wealth of the two cities continues ſtill the ſame. According to the Ayeen Akbari, the revenue of Behker is only two hundred and thirty-two pounds [180], while that of Seewee [181] is five thouſand two hundred and eighteen.

The erection of the citadel was entruſted to Craterus, whom we muſt conſequently ſuppoſe to have returned from the detachment that marched into Arachoſia, and Alexander continued on the ſpot till it was completed. As ſoon as a proper garriſon was appointed, an expedition was undertaken againſt Oxykanus commanded by the king himſelf; his forces conſiſted of the archers, Agrians, and the horſe he had on board. If Arrian or any of the hiſtorians had told us on which ſide of the river the army moved to the eaſt or weſt, higher up or lower down, we ſhould have ſome ground to ſtand on; but we have now one circumſtance only, that he was chief [182] of a diſtrict

[179] Εὐδαιμονέστατην. Flouriſhing is perhaps a more proper term.

[180] At forty dams to the rupee.

[181] Havelly is added to Sewee in this account. Ayeen Akbari, vol. ii. p. 105. Jumma.

[182] Νομάρχην τῆς ταύτῃ γῆς, chief of a diſtrict in the country here, literally. I cannot conceive a more accurate expreſſion for the chief of a circar, in reference to a ſoobah; or for the chief of a mahl, in reference to a circar.

in the ſame country, and are left to our own conjectures for the reſt. My conjecture is directed by the mention of Sambus next, as a ſatrap appointed by Alexander himſelf over the Indians of the mountains; for the mountains mentioned here correſpond exactly with the range called Lukhy[183] in the Ayeen Akbari. They are a branch of that great chain which extends from the ſea to Kandahar, a branch of which reaches nearly to the Indus at Seewee, and affords a reſidence for a horde of Belootches called Kulmany. On theſe mountains I have no heſitation to place Sambus; and if in the little light we have to direct us we obtain one poſition, there is no reaſonable objection to fixing the other in correſpondence to it. By the motion of the army immediately out of the territory of Oxykanus into that of Sambus on the mountains, it ſhould appear that Oxykanus was on the plain at the foot of that range; and I contend that this plain and theſe mountains muſt be on the weſt of the Indus, becauſe the deſert and the ſandy hills are on the eaſt; and there is no authority, either ancient or modern, to ſhew that the range on the eaſt ever approaches the river at any one point.

But let us return to the courſe of the expedition. Alexander marched againſt Oxykanus becauſe he had received no embaſſy or acknowledgment from him; he took two of his largeſt cities by aſſault, and in one of them Oxykanus himſelf; the plunder was abandoned to the ſoldiers, and the elephants only reſerved for the public ſervice. Several other cities ſurrendered without reſiſtance; for by this time, ſays Arrian, the ſpirit of all the Indians was completely[184] ſubdued. Q. Curtius relates theſe circumſtances with ſome ſhade of difference; Oxykanus, he ſays, was killed, and the people he

[183] Lakhi. Tieffenthaler. [184] Ἐδεδούλωντο τῇ γνώμῃ.

calls

calls Præſti. I deſire to make but one more obſervation. Oxykanus was not on the river; for if he had been, Alexander need not have landed to march againſt him; he was near Sambus, and Sambus was ſatrap of the mountains. The concluſion is, therefore, that he was on the weſt of the Indus, and highly probable that his territory was at the foot of that range called Lukhy, conſequently that Muſikanus and Qxykanus were both chiefs in the circar of Sehwan.

Sambus, the next object of Alexander's purſuit, has a variety of names, which prove only the doubts of hiſtorians, and obſcurity of the tranſactions; for this chief is the Sabutas[185] of Strabo, the Sabbas of Plutarch, the Ambigarus of Juſtin, the Ambiras of Oroſius, the Sabus or Samus of Q. Curtius. This recital is preſerved in order to excite the attention of the Orientaliſts; for the idea of locality is aſſuredly attached to one or other of theſe appellations, if the true etymology can be obtained.

Sambus is repreſented as a ſatrap, or chief, of a tribe of mountaineers in the neighbourhood of Muſikanus, and in hoſtility with that prince, as all the inhabitants of mountains conſtantly are with their neighbours on the plain. He had made his ſubmiſſion to Alexander, and received from him a freſh appointment to his ſatrapy[186]; but upon receiving intelligence that Muſikanus had made his peace with the conqueror, he had abandoned his country and fled. For this flight no reaſon is aſſigned; but it is natural to ſuppoſe, that in the reconciliation of his enemy with Alexander he

[185] See Snakenbrock's Notes on Q. Curtius, lib. ix. c. 8.

[186] We ought to conſider Sambus as a native chief. The title of Satrap and the name of Satrapy afford a proof of his being conſidered as a ſubject of the Perſian monarchy.

foreſaw ſufficient reaſon [187] to diſtruſt both; and as conquerors allow none of their tributaries to be injured by any but themſelves, Sambus might reaſonably imagine, that either his future incurſions would be prohibited, or his former ravages muſt be accounted for; in either caſe it was his intereſt to retire; and if he had ſubmitted to Alexander before the reduction of Muſikanus, it is probable that a participation in the plunder of that prince's province had been a principal inducement to effect his ſubmiſſion. When or where this tranſaction took place does not appear, but if we place it at Sogdi, the delay of Muſikanus in making application for terms, is a ſufficient motive for the conduct of his rival. Invaſion is too often fortunate in finding the jealouſy of the natives favourable to the ſchemes of the invader, and the petty intereſts of oppoſite parties co-operating to their mutual deſtruction.

If Sambus was at the head of the tribe, I ſuppoſe, his ſubmiſſion was of importance; for the Belootches who poſſeſs the range of mountains called Luhky ſtyled Kulmanies, are ſaid by the Ayeen Akbari [188] to conſiſt of twenty thouſand families, and able to bring ten thouſand horſe into the field. Their country, though covered with hard rock, black and barren, muſt be interſperſed with fertile vallies; for beſides the horſes raiſed for their own ſervice and for foreign ſale, camels alſo are produced here in great abundance, ſufficient, not only for the ſupply of Scindi, but of the interior provinces. From this account of a ſingle tribe, we

[187] See a ſimilar conduct of the ſecond Porus upon the reconciliation of the firſt Porus with Alexander. Porus on the Hydraotes had been an enemy to the other on the Hydaſpes, and had ſent deputies to the camp as the army was advancing. After the victory, and the admiſſion of the conquered into favour, this ſecond Porus fled upon the approach of the conqueror to his own territory. Lib. v. p. 223.

[188] Vol. ii. p. 142.

cannot

cannot be ſurpriſed at finding the general influence of the Belootches extending far to the weſtward at preſent, or even to Cape Jaſk, according to Niebhur [189]; neither can we think lightly of the Arabitæ who inhabited the ſame tract in the age of Alexander, and had the ſame means of making themſelves either feared or reſpected. Q. Curtius [190], from Clitarchus, ſtates the number of natives who periſhed by the Macedonian invaſion at eighty thouſand, beſides priſoners; an exaggeration doubtleſs, but ſtill indicating the relative magnitude of the tribe; and that it was more numerous in the time of Alexander we may conclude; for if the plain country was more rich and populous, the number of banditti maintained out of its ſpoils would be larger in proportion.

In the Sindimana [191] of Arrian, the capital of Sambus, I find an alluſion to Scindi, the moſt general and common name of the country on both ſides the Indus [192]; and though there are ſtrong objections

[189] By Niebhur's account of the Arabs, who have in all ages paſſed the gulph of Perſia towards the eaſt, it would be no difficult matter to form a connection between the Arabs and Arabitæ; but Niebhur does not make the ſame diſtinction of Brodia and Bloachee which Porter does, ſeeming to conſider all the wandering tribes in Mekran as Belootches.

[190] The whole account in Q. Curtius is confuſed as uſual. For firſt Alexander enters the country of Sabus, and then falls four days down the river to attack his capital. This is perhaps an error from want of diſtinction between Sindonalia and Harmatelia. See Arrian, p. 254. As to the eighty thouſand ſlaughtered, I doubt all ancient numbers, but none more than thoſe of Q. Curtius.

[191] The beſt MSS. read Sindimana, not Sindomana. Gron. Arrian, p. 254.

[192] The Nubian Geographer conſtantly makes the proper diſtinction between Scind and India, and between both and China; the Chineſe he calls Sin, and deſcribes their commerce on the Indian ſeas nearly in the ſame manner as Marco Polo, with whom he is almoſt contemporary. I take this opportunity of mentioning theſe diſtinctions, becauſe I believe the Arabic writers derived the name Sin from the Sinæ of Ptolemy, and applied it to the fartheſt people eaſt, as he had done. When the Portugueſe paſſed the Cape of Good Hope, the only navigators they would find muſt have been Arabians, and from them they derived the term Sin, which has produced the word China, now current throughout Europe,

jections to placing any city of importance ſufficient to be conſidered as the head of Scindi in the mountains, it is not aſſuming too much to ſuppoſe that the Belootches might have a city at the foot of them. I ſpeak with great diffidence upon the identical ſituation of Muſikanus, Oxykanus, and Sambus; but I have no doubt about the ſettlement of them all in Secwiſtan and the mountains adjacent; and I maintain that Muſikanus cannot be at Behker, as there is neither mountain or hill that approaches the river near that iſland. If M. de la Rochette's [193] Map can be depended upon in regard to this circar, his diſpoſition of Lukhy or Lacki exactly correſponds with the topography I wiſh to adopt.

Sindimana made no reſiſtance, for though Sambus had fled, he had no hoſtile deſigns againſt Alexander. He was probably alarmed for his perſonal ſafety on account of the ſubmiſſion of Muſikanus; but the gates of the city were open, and the officers of the fugitive chief delivered up his treaſures and elephants without heſitation. From hence the army advanced to another fortreſs called the City of the Bramins, and as Diodorus mentions his Harmatelia with the ſame attribute, it is doubtleſs the ſame. This city is ſaid to have revolted, by which we may underſtand that it was concluded in the original ſubmiſſion of Sambus, and upon his flight prepared to defend itſelf. It was taken without difficulty, and the Bramins, who were the adviſers of reſiſtance, were put to the ſword. While theſe

rope, a term unknown to the Chineſe themſelves. Marco Polo, who entered from the north, never obtained this word, but calls China, Mangi, probably from the Mantcheoux Tartars. The Arabians penetrated from the weſt; and though Ptolemy's knowledge extended not to China, his Sinæ were the termination of his chart, and theſe were the Arabic Sin. See the Voyage of two Arabians to China in the twelfth Century, publiſhed by Renaudot, and in Harris's Collection.

[193] See his Sheet Map of India, publiſhed by Faden.

tranſactions

tranſactions were going on, intelligence was brought that Muſikanus had revolted. Python, now ſatrap of the province, was ordered to proceed againſt him, while Alexander ſeized the cities in his territory. Theſe, we may conclude, lay between the country of Sambus and the river, and lower down than the reſidence of Muſikanus; but whether Alexander [194] returned thither, or joined the fleet below, does not evidently appear; he found Muſikanus, however, a priſoner in the hands of Python, and executed him with the Bramins, who were the promoters of his revolt.

While Alexander was preparing for the proſecution of his voyage, he diſpatched Craterus, at the head of two diviſions of the phalanx and a body of archers, with orders to take up on his march ſuch of the companions and other Macedonians who had before been ordered to proceed through Arachoſia and Drangiana. The whole of theſe forces, with the elephants, were to direct their courſe by an inland route to Karmania, and join the main army again in that province. The primary object of this route appears evidently to be in correſpondence with the plan Alexander had laid down for ſurveying and exploring the extenſive provinces of his empire; and a ſecondary deſign ſuggeſts itſelf, which is, that he was already acquainted with the ſterility of Gadroſia, which he intended to encounter himſelf, and therefore leſſened the hazard of diſtreſs in proportion to the diminution of his numbers.

During this interval, Mæris [195], the chief of Pattala and the Pattalene, came up the river, in order to make his ſubmiſſion, and to

[194] Μουσικανός τε ἄγεται πρὸς Πώρου, implies that Muſikanus was brought in. If, therefore, Alexander was now in his city, Muſikanus had left it and fled into the country, from whence he was now brought as a priſoner. Alexander executed him ἐν τῇ αὐτοῦ γῇ, which does not quite imply his city, but his territory.

[195] We have the name of this chief from Curtius; and I preſerve all names for the inveſtigation of future inquirers.

ſurrender himſelf and his territory to the diſpoſal of the conqueror. His offers were graciouſly accepted, and he was ſent down again to his government with orders to prepare every thing for the accommodation of the army upon its arrival.

The proper diſpoſitions were now made for departure. Hephæſtion was ordered to take the command of the main body not embarked, and move downwards on the eaſt[196] ſide of the river, while Python conducted the Agrians and light-horſe on the weſt[196]. The king proceeded with the ſame troops on board as before. He had advanced only three days, when intelligence was brought that Mæris had left Pattala, and fled into the deſert with the greater part of his people. The progreſs of the fleet was immediately quickened, in order to obviate the difficulties which might ariſe from this defection; but before it reached Pattala, the city was without inhabitants, and the country without huſbandmen.

I cannot however enter upon the Delta, without recalling the attention of the reader to the geographical difficulties we have already encountered; for in the paſſage down the river I find every circumſtance to corroborate the poſition I have aſſumed from Strabo, and the reaſons which induce me to place the Sogdi at Behker, and Muſikanus at Sihwan. The teſtimony of Strabo[197] is poſitive, that the territory of Muſikanus joins the Pattalene; it is upon this teſtimony that I firſt found reaſon to diſſent from Major Rennell, and upon which I build the whole explication, detailed perhaps too much at length for the ordinary patience of readers, but of great conſequence to hiſtorians and

[196] This is inferred from the commiſſion Python received to collect inhabitants for the cities already fortified; and which can be no other than thoſe Alexander had taken and eſtabliſhed lately.

[197] Lib. xv. p. 701. Πρὸς αὐτῇ τῇ Παττανηνῇ, ad ipſam Pattalenam.

geographers, and highly conducive to the elucidation of our claſſical authorities. I muſt now obſerve that Major Rennell's map gives an hundred and forty miles, and de la Rochette's an hundred and fifty, by the ſcale, in a right line from Sihwan to Tatta. This, with the ſinuoſity of the river, may be eſtimated at two hundred miles; and if we ſhould now add eighty [198] or ninety miles more to carry back Muſikanus to Behker, I aſk what reference can Arrian's three days' voyage have to ſuch a diſtance?—but there are more than three days;—for he proceeded three days, and after that hurried down to Pattala. I allow this, and I will allow two or three days more for the rapid part of his courſe; but I muſt obſerve, that for the firſt three days he could not proceed more than fifteen, or at the utmoſt more than twenty miles a-day, if he kept pace with the forces on ſhore; and when we have taken ſixty miles out of an hundred and fifty or two hundred, we leave a ſufficient reſidue for the concluſion of his courſe, when he may be ſuppoſed to have proceeded with the fleet alone, leaving Hephæſtion and Python to follow with the greateſt diſpatch in their power. All theſe circumſtances conſidered, there is every reaſon to conclude that Arrian is in harmony with Strabo; and as both theſe authors drew from original ſources, whenever they agree, little attention is due to Diodorus, Q. Curtius, or Plutarch. Upon this occaſion, however, though there is ſome confuſion, there is nothing in any one of thoſe writers contradictory to the deduction here made.

It may be objected, that by placing two chiefs in this province, and a third on the mountains near it, we comprehend too much in proportion to the ſpace allotted; but by the revenue Akbar derived

[198] One hundred or one hundred and twenty, allowing for the courſe of the river.

from this ſoobah in general, and from the circar of Seewiſtan only, there is reaſon to ſuppoſe, that as long as there was any commerce upon the Indus all theſe circars were rich, and all the parts of them cultivated which were capable of cultivation. There is ſtill greater reaſon to believe, that in the early ages they were all more populous and more opulent; for a number of ſmall ſtates, ſuch as appear every where during this irruption of the Macedonians, univerſally indicate [199] population, commerce, and wealth. In the ſtate of India, at this day, every chief who has a fortreſs is a khan or ſovereign, and perhaps at this very inſtant there may be more than two ſuch ſovereigns in this identical diſtrict. It is Seewiſtan itſelf that the Ayeen Akbari ſpecifies as having forty thouſand veſſels on the Indus, and its revenue as amounting to forty-eight thouſand five hundred and eighty-three [200] pounds. It is probably not leſs than two hundred miles in length by an hundred and eighty in breadth, and contains nine mahls or ſubdiviſions; theſe are fully equivalent to the territories or cities, which two ſuch chiefs as Muſikanus and Oxykanus can be ſuppoſed to have poſſeſſed.

But a weightier charge may be alleged againſt me, for ſetting up my opinion in oppoſition to Major Rennell. No one can bear ampler teſtimony to the accuracy of that able geographer than myſelf, for no one has ſtudied his map and his memoirs with more attention; and if I diſſent from him in this one inſtance, I do it with that deference which is due to his abilities, and the ſuperior opportunities he has had of obtaining information.

[199] In the ancient world, Greece, Italy (before the Romans were maſters), Sicily, and Gaul, are inſtances. In the modern world, Holland, Switzerland, America.

[200] At forty dams to the rupee.

Before

Before we proceed to Pattala, I ſhall explain another geographical problem, which, though not abſolutely connected with the progreſs of Alexander, pertains immediately to the country where we now are. Mr. d'Anville and Major Rennell both expreſs their ſurpriſe at finding a tract called Indo-Scythia [201], in Dionyſius Periegetes, Ptolemy, and the author of the Periplus of the Erythræan Sea. This tract ſeems in their opinion to extend upwards on the weſtern [202] ſide of the Indus, and its inhabitants are by ſome means or other to be drawn out of Scythia or Tartary; but I conceive the whole to be an ancient error of the ſimpleſt nature. We find in this tract two tribes of Belootches, one called Sethians, and the other [203] Hendians [204] or Sindhians, which, though ill defined, ſeem by their names to be one tribe on the mountains and the other on the river; we find a third tribe of Belootches lower down, and nearly in the parallel of Tatta, called Nomurdies, who can raiſe three hundred horſe and ſeven thouſand foot [205]. If then we may be allowed to add antiquity to theſe names, the Nomurdies and Sethians will be metamorphoſed in Nomades and Scythians without heſitation; and we ſhall find the Indo-Scythians of Dionyſius and Ptolemy in the Hendo-Sethians of Abu'l Fazil, without taking a flight with Mr. d'Anville to bring Huns out of Tartary, in order to ſet them down on the banks of the Indus.

[201] Indo-Scythia belongs to the lower part of Scindy, according to d'Anville. Anc. Geo. vol. ii. p. 346. Eclairciſſemens, p. 42.

[202] Perhaps d'Anville, by including Minnagara in it, (a conſtant miſtake of his about Manſoura or Behker,) is diſpoſed to extend it on the eaſt ſide of the Indus.

[203] The river Arabis, at which we ſhall ſoon arrive, has the name of Hend in d'Anville and de la Rochette; poſſibly, therefore, the Hendians and Arabitæ are the ſame.

[204] Ayeen Akbari. Tieffenthaler, vol. i. p. 119.

[205] Ayeen Akbari, vol. ii. p. 142.

VI. PATTALA.

Longitude	°	′	″	Latitude	°	′	″
by Ptolemy, from Ferro,	112	50	0	Ptolemy,	21	0	0
by Rennell, from Greenwich,	67	36	0	Rennell,	24	47	0
add from Ferro, -	17	40	0				
	85	16	0				
Ptolemy corrected by Mr. Goſſelin's method, -	80	0	0				
Ayeen Akbari, - -	102	30	0	Ayeen Akbari,	24	10	0
Otter, Abul-feda, -	92	31	0	De la Rochette,	24	43	0
Otter, Etvals, -	92	30	0				

Rennell's eſtimation is taken from Braminabad, where probably are the ruins of Pattala.

We are now to enter the Pattalene, where freſh difficulties occur, which, if they cannot be conquered, may be greatly diminiſhed by a faithful compariſon of our authorities.

Pattala, in the Shanſkreet, ſignifies the region [206] below, or Hell. If we are diſpoſed to interpret this appellation in a good ſenſe, we may ſuppoſe the Hindoos ſignified by it, the country watered by the Indus in the lower part of its courſe. But if we prefer the other ſenſe, there will be nothing improper in the application; heat and burning ſands, and want of rain, all juſtify the alluſion; and the entrance into this country from Hindoſtan, through the deſert of Behker, or the other deſert ſtill more extenſive, parched, and dan-

[206] Maurice Ind. Ant.

gerous,

gerous, in the route from Guzerat, ſuggeſts ideas of hell with great facility to the mind of an Hindoo.

The Pattalene is a Delta, like the Lower Egypt, but the dimenſions of it ſeem very ill defined. The baſe of this triangle lies nearly north-eaſt and ſouth-weſt; and if it were poſſible to give the extent of it exactly, we ſhould obtain a great deſideratum in geography. Ptolemy and the author of the Periplus aſſert, there are ſeven mouths to the river, and the modern name of Divillee is ſaid to have the ſame alluſion; but although Alexander navigated the two extreme branches eaſt and weſt; and though there is reaſon to believe that the commerce on the Indus paſſed up and down both theſe, if not ſome of the others, in ancient times, I have never yet met with a traveller or voyager who paſſed up the eaſtern branch except Alexander himſelf. The extent between the two outer branches is given by

			Miles Eng.
Arrian, at - -	1800 ſtadia, -	equivalent by d'Anv. ſtad. to	113
Pliny [207], - -	220 Roman miles,	——	201
Rennell's firſt memoir,	210 Engliſh miles,	——	210
Rennell's ſecond memoir,	150 Engliſh miles,	——	150
D'Anville, -	30 leagues 1½ degree,	——	104
Dalrymple [208], Pritty's chart,	108 geog. miles,	——	125
Dalrymple, by another chart,	124 geog. miles,	——	143
De la Rochette, -	118 Engliſh miles,	——	118
Rennell's map, by ſcale,	170 Engliſh miles,	——	170
Ptolemy, - -	3 degrees 10 minutes,	——	215

In the diſagreement of theſe ſeveral accounts, none of which, as far as comes within my knowledge, are founded on aſtronomical

[207] By applying d'Anville's ſolution to Pliny, his meaſure is nearly the ſame as Arrian's.

[208] Meaſured from Pandrumme to Laribundar. Allow for Ptolemy's degrees in latitude 24.

obſervation,

obſervation, nothing appears nearer approaching to probability than the eſtimation of Arrian; it is likewiſe, perhaps, the only one that is built upon meaſurement; for if the coaſt is capable of a ſurvey, it is almoſt to be depended upon as a certainty that it was meaſured by Alexander's ſurveyors.

The meaſurement of the ſides is as difficult to obtain as that of the baſe of this triangle; nor does any thing appear like authority on this head, except what is found in Major Rennell, that it is an hundred and twenty-five miles by the courſe of the river from Laribundar to Tatta, and Laribundar is from fifteen to eighteen miles diſtant from the ſea; this, with four miles from Tatta to the head of the Delta, makes upwards of an hundred and forty-four miles for the weſtern branch of the Lower Delta, and is reduced to ſixty-eight geographical miles by the ſcale [209]. The eaſtern branch by the courſe of the river is ſtated in the ſame author at an hundred and ſeventy miles. This is the beſt information attainable on the ſubject; for, as the authority of other maps is unknown, they are leſs to be depended on.

But there is another extraordinary ſource of obſcurity which belongs to no other ſpot upon earth; for as the Engliſh charts give Lari-bundar for the extreme point weſt, and by a peculiar inverſion Bundar-Lari for the extreme point eaſt, ſo does the Ayeen Akbari give Cutch for the country eaſtward, on the bay of Cutch [210] or Scindy, and another Cutch for Mekran on the weſt. Mr. d'Anville looked likewiſe for the Sangada of Arrian ſomewhere on the coaſt, but could find only the Sangarians or Sanganians, a horde of pirates

[209] Curtius ſays, four hundred ſtadia, and then three days ſail added. Lib. ix. p. 9.

[210] De la Rochette writes it Kartſch.

in

in the bay of Cutch eaſtward, whereas Sangada is evidently to the weſt of the Indus. May not this ſuggeſt an idea that Sangada was anciently applicable to both ſides of the river, as Cutch is at preſent; and that the name has ſurvived on the eaſt, while it has periſhed on the weſt? In regard to the name of Cutch, Major Rennell is certainly not miſtaken, when he conjectures that Cedge [211] or Gedge may be the native root of Gedroſia, the Cutch or Gedge-Mekran of the moderns.

It has been already obſerved, that Alexander had conceived a plan of that commerce which was afterwards carried on from Alexandria to the Indian ocean. I think this capable of demonſtration by his conduct after his arrival at Pattala, and I ſhall enumerate ſome circumſtances in confirmation of this aſſumption.

Alexander, in his paſſage down the Indus, had evidently marked it as the eaſtern frontier of his empire. He had built three cities, and fortified two others on this line; and he was now preparing for the eſtabliſhment of Pattala at the head of the Delta, and planning two other poſts at the eaſtern and weſtern mouths of the river. The forces to be left under Python, who was ſatrap of this country, were chiefly Aſiatic; ſufficient, probably, for the defence of this frontier, if Alexander had lived to give vigour and ſtability to his empire, and capable of maintaining the poſts he had eſtabliſhed for the protection and extenſion of that commerce he had in view.

With theſe objects before him, he had, immediately upon his arrival at Pattala, diſpatched his light troops in purſuit of the fugi-

[211] Derived, in all probability, from Kiz, Cheref-eddin and the Nubian Geographer. Kij, or Kidge, the capital of Mekran. See

tives who had deſerted the city; and moſt of them, upon promiſe of ſafety and protection, returned. His next care was to explore the deſerts on both [212] ſides, to find water and to ſink wells. This is one evidence rather of a commercial than military tendency, for ſuch, all who have travelled in the deſerts will eſteem it, and ſuch was the opinion of Arrian, who adds, that it was with a view to render the country habitable.

The conſtruction of a fortreſs at Pattala was committed to Hephæſtion; and as ſoon as that buſineſs was in ſome degree of forwardneſs, Alexander prepared to explore the weſtern branch of the river to its mouth. The general courſe of this navigation is no difficult matter to conceive; but the particulars afford doubts, which, from the deficiency of materials, and the variations in thoſe we have, are not eaſy to be reſolved. If we place Pattala near the head of the Delta, which we muſt, the ſcite of Braminabad now in ruins, within four miles of Tatta, will ſufficiently correſpond. This city, before the inroads of the Mahometans and Mogols, is ſaid to have been ſurrounded with a wall that had fourteen hundred baſtions; and the wealth and importance of ſuch a capital, while commerce flouriſhed on the Indus, plainly indicate [213] the judgment of Alexander in chooſing it as a poſition for a fortreſs. If his departure was from this point, his progreſs was down the Lari-bundar river, or Darraway; and the mention of two iſlands, one near the mouth and the other out at ſea, will afford reaſon to ſuppoſe that the firſt is that upon which Lari-bundar [214] ſtands in our beſt charts. This,

[212] More probably on the weſt only.

[213] It indicates, likewiſe, the population of ancient India, as ſuperior to the modern; a point ſo often inſiſted on in this work.

[214] Major Rennell's laſt map places Lari-bundar on the weſt of the Darraway, or rather Pitty branch.

however,

however, is not clear; for Captain Hamilton, who deſcribes Lari-bundar as a village [215] of an hundred houſes with a fort, and who himſelf conducted [216] a caravan from hence to Tatta, does not inform us on which ſide the river it is placed. From the courſe of his march we ſhould ſuppoſe it to be on the weſtern ſide, as Rennell [217] has deſcribed it; otherwiſe he muſt have croſſed the river, which is not noticed. There is, however, one circumſtance to make us think his route lay within the Delta, for he mentions the tombs [218] of the ancient kings evidently at Braminabad, four miles from Tatta, as if they lay in his road; if ſo, Lari-bundar is not on the weſt of the Indus.

Mr. Dalrymple [219] is ſatisfied in regard to the poſition of Lari-bundar on the eaſtern bank, but thinks its inſular ſituation dubious; neither would it have been neceſſary to inſiſt on this point, unleſs from a deſire of fixing one of thoſe iſlands obſerved by Alexander in his paſſage to the ſea. He ſet out from Pattala with all his gallies, ſeveral of his half-decked veſſels, and his beſt ſailing tranſports; diſpatching Leonnatus at the ſame time at the head of a thouſand horſe and eight thouſand infantry, with orders to proceed within the Delta [220], and attend the motions of the fleet. It had been found impoſſible to procure a native pilot, as the inhabitants had fled, and upon the ſecond day a ſtorm aroſe, which, blowing contrary [221] to the ſtream,

[215] In 1699.

[216] Vol. i. p. 114.

[217] I conclude this from Major Rennell's map, which places Dungham, an intermediate ſtation of Hamilton's, on the weſt of the Darraway.

[218] Anquetil du Perron mentions theſe tombs as ſtill exiſting, and teſtified to him by letter from Mr. Erſkin, Engliſh Reſident at Tatta, in 1760.

[219] Private correſpondence, December 22, 1794.

[220] This is a confirmation that the Delta in this part was not interſected with rivers or canals, and countenances the opinion I have formed of Hamilton's march.

[221] As this was nearly the month of Auguſt, the ſouth-weſt monſoon was in its full vigour.

endangered

endangered the ſafety of the fleet. Some of the gallies periſhed, and the remainder was with difficulty ſaved by running them on ſhore. During the delay occaſioned by this misfortune, and the repair [222] of the veſſels, ſome light troops were ſent in purſuit of the natives, and a few were taken who were uſed as pilots in the proſecution of the voyage. When theſe difficulties were ſurmounted, the fleet proceeded; and as it now approached the ſea, the ſtream appeared enlarged to two hundred ſtadia [223]; an exaggeration which no computation of the ſtadium, no allowance for the overflowing of the river, can juſtify. It is true that the ſeaſon [224] might have ſwelled the waters nearly to the higheſt, and the monſoon contributed to the obſtruction of their diſcharge; but that a river, which is not more than a mile or a mile and a half broad, ſhould from either of theſe cauſes be ſpread to the extent of twelve or thirteen miles [225], is not conſiſtent with probability. The numbers in Arrian are poſſibly erroneous, (for all numbers in Greek hiſtorians are to be ſuſpected); but if they are correct, and copied from the journals Arrian followed, we muſt either make great allowance for the different [226] breadth of the river in that age, or ſuppoſe (as is much more probable) that the Macedonians on board were ſo alarmed at the cataſtrophe which befel them the following day, that they amplified in proportion to their terror.

[222] Arrian adds, Ἕτεραι δὲ συνεπήγνυντο, *others were conſtructed*. But perhaps we ought to read, αἱ ἕτεραι, *the others were repaired*, if συνεπήγνυντο will bear that ſenſe; for time would ſcarcely allow the building of new ſhips, and the country affords no timber.

[223] Arrian.

[224] July or Auguſt.

[225] By the loweſt ſtadium.

[226] The Indus, like all the other ſtreams ſubject to the ſolſtitial ſwell, accumulates obſtructions at its mouth. In the records of modern hiſtory, the ſands are much increaſed, and Tavernier ſpeaks of the mouths as hardly navigable; and ſuch is the Roſetta, or grand branch of the Nile at this day.

That

That day produced a violent gale from the ſea, and great hazard to the fleet, which had evidently moved with the tide of ebb, and been involved in the turbulence raiſed by the oppoſition of the wind to the ſtream. To avoid this, they took ſhelter, by the advice of their native pilots, in one of the canals [227] or creeks which had been formed for the convenience of the neighbouring country. As the tide fell, the veſſels were left aground; but upon the return of the flood, thoſe only that had ſettled upright in the mud, or ooze, eſcaped unhurt, while all that lay inclined upon the harder [228] ground were expoſed to the moſt imminent danger, and ſeveral were loſt.

The ſurpriſe of the Macedonians on this occaſion, and their ignorance of the tides, has been ridiculed by Voltaire, who thinks it incredible that Alexander ſhould not know the nature of tides, as he muſt have ſeen the Euripus when in Bœotia, and muſt have known that Ariſtotle wrote upon the ſubject. Major Rennell has corrected this petulance, by ſhewing that the tide in the Indus is the Bore [229], which operates along the whole coaſt, and which in the neighbouring bay of Cutch, and round the whole peninſula of

[227] Διώρυκα, a nullah.

[228] The gallies (τριακόντοροι) were probably, in the nautical phraſe, *ſharp built*, that is, with deep keels; a veſſel of this kind is ill adapted for *taking the ground*, and when ſhe is left upon an hard ſurface lies down almoſt on her ſide; the conſequence is, that upon the return of the tide, ſhe fills with water before ſhe floats. I am informed that the circumſtance here noticed is exactly ſimilar to what takes place in the mouth of the Seine, between Havre and Rouen, where the tide riſes with a rapidity greater than any experienced in our own country, except perhaps in the Severn.

[229] The Bore, with all its attributes, is deſcribed by the author of the Periplus Maris Erythræi (page 27, Hudſ. Ed.) in the gulph of Cambay, or Guzerat, which he writes Barugaza; and I invert Barugaza into Ba-Guzara, or Guzerat; for Guzerat is only a corruption of the Arabic Gezira, and is a peninſula. In this view I contemplate the Barugaza of the Periplus, and the Ba-gaſira of Arrian, as the ſame word; for Arrian applies Ba-gaſira to Cape Arraba, which is a peninſula alſo. The adjunct Ba will be noticed hereafter; and as the Orientals themſelves tranſpoſe the ſyllables, writing Geſira or Geriſa, ſo does the Periplus add another tranſpoſition, Rugaza for Guzara, or Guzarat.

Guzerat,

Guzerat, is deſcribed as one of the moſt alarming effects which the ſea produces.

The damage was repaired as well as the ſituation of affairs would allow; and two of the tranſports were ſent down to explore an iſland called Killuta [Killoota], where it was ſaid anchorage and ſhelter would be found, and occaſion might be taken for proſecuting the diſcovery [230]. Upon a favourable report the fleet proceeded to this ſtation; and Alexander, taking with him ſome of the beſt ſailing veſſels, proceeded to a ſecond iſland which lay clear out of the river, and aſcertained the exiſtence of a paſſage. The diſtance of this ſecond iſland from Killuta is eſtimated at two hundred ſtadia, or about twelve miles; and if our modern maps or charts were to be depended on, we could find poſitions for both theſe iſlands. One of Mr. Dalrymple's charts gives an iſland named Lari-bundar (from the town), which would anſwer to Killuta, and another ſmall iſlet which might correſpond with the ſecond; Mr. de la-Rochette's map ſeems to have followed this as authority; but as Mr. Dalrymple publiſhes the drawings he receives, without making himſelf anſwerable for their accuracy, and as he has himſelf doubts concerning Lari-bundar, nothing can be determined poſitively on the ſubject. From the nature of the river, we may conceive that new accumulations have obſcured the ancient face of the coaſt, new channels may have been formed by art or nature, and old ones obſtructed; and if we were to give a preference, it would be to abandon the poſition of Killuta [231] here aſſumed, and eſtabliſh upon future ob-

[230] More will be ſaid on the ſubject of this iſland when it comes under conſideration again upon the departure of Nearchus.

[231] Cilluta, Cilluta Scilluſtis Pſiltucin. Curt. Loccenius, in loco; but ſee *infra*. Otter mentions Deboul, Divil Scindi, here, in latitude 22 30″, which it certainly is not; and Lahuri Larri on the eaſtern branch, two days journey diſtant, which is vague. Vol. i. p. 406.

ſervation

ſervation the ſcite of the outer iſlet, as the extent of Alexander's progreſs.

The Weſtern Mouth of the Indus called SAGAPA by Ptolemy:

Longitude	°	′	″	Latitude		
From Ferro, - -	110	20	0	19°	50′	0″
Rennell, from Greenwich,	66	22	0	24°	43′	0″
add from Ferro, - -	17	40	0			
	84	2	0			
Ptolemy corrected by Goſſelin,	78	5	0			

From this point he returned back to Killuta, and ſacrificed to the gods; he proceeded the next day a ſecond time to the outer iſland, and ſacrificed there alſo; after which, he ſtretched out into the ocean, as he aſſerts[232] himſelf, to determine whether the ſea were open, or there were land in the neighbourhood; but, as I imagine, ſays Arrian, not a little inſtigated by the vanity of having it recorded, that he had navigated the Indian[233] ocean. At the extent of his courſe, he ſacrificed a third time to Neptune with ſtill greater ſolemnity, throwing the golden veſſels he had uſed in the ceremony into the ſea, and praying for a proſperous iſſue to the expedition of Nearchus.

The object of this excurſion being completed, Alexander returned[234], with the veſſels which had accompanied him, up the river again to Pattala, where he found the citadel completed, and Python

[232] Probably in his letters, which were extant in the time of Arrian.

[233] Τὴν ἔξω Ἰνδῶν θάλασσαν. In oppoſition to the Mediterranean.

[234] To Hyala, ſays Diodorus, a city with a Spartan government! But where are we to find it? Both Diodorus and Curtius are ignorant of the voyage down the eaſtern branch. Diod. xvii. p. 241.

returned

returned from his expedition. Hephæſtion was left to ſuperintend the conſtruction of a naval arſenal here, with orders to fortify it, and prepare it for the reception of a fleet which was to be eſtabliſhed at this ſtation, while Alexander himſelf ſhould undertake another excurſion to the ſea by the eaſtern branch of the river.

Theſe two branches only are mentioned by Arrian, and the reaſon evidently is, that theſe were the only two explored by the Macedonians. I have met with no author prior to Ptolemy who mentions the ſeven[235] mouths; and modern geography, though it preſerves the record of the river ſtill having ſeven iſſues, affords nothing ſpecific upon the ſubject. On two of Mr. Dalrymple's charts, double the number of creeks or inlets may be collected, with their names; but whether they are natural or artificial, ancient or modern, ſeems, from all the information we have at preſent, impoſſible to determine.

Major Rennell brings out the eaſtern channel much farther towards the eaſt in his ſecond map than in his firſt; the channel itſelf, or the place at which it iſſues, is named Pandrimmee or Pandrummee, in his and ſeveral of Mr. Dalrymple's charts; and the ſtream is called Nulla Sunkra. But Nulla, Nalla, Nala, Nallah, is a Perſian term, and ſeems as if it was never applied properly except to an artificial[236] cut. The authority for making this the eaſternmoſt branch at preſent ſtands high; for we have in Frazer the tranſlation of the actual treaty[237] between Nadir Shah and the Mogol Emperor, in

[235] The author of the Periplus ſays there are ſeven mouths, but two only navigable; the others are ſhallow, or choked by the marſhes they paſs through.

[236] Nullah or Nallah is a Perſian word, derived from the Hebrew נחל and נחל, a hollow, valley, or courſe of a torrent—the torrent itſelf. Lev. xi. 9. Deut. ii. 24. Iſaiah, xxx. 28. xxxv. 6. xxxiv. 9. But there is an authority, Iſaiah, xi. 15. where נהל ים is applied to the ſeven ſtreams of the Nile. Biſhop Horſely.

[237] Frazer's Nadir Shah, p. 226.

Otter, who reports this treaty nearly in the ſame manner as Frazer, writes it Nalé Sengueré.

which Nala Sunkra is made the new boundary of the two empires. It is not a little remarkable, that previous to this treaty in 1739 the boundary of Indoſtan and Perſia was nearly the ſame as in the age of Alexander; for till this took place, the Mogul empire extended to the range of mountains on the weſt of the Indus, the reſidence of the Belootches, and in Arrian's journal the river Arbis or Arabis, which ſprings from that chain and runs parallel with it at no great diſtance, was the limit of India and of Indian manners [238].

Nadir Shah had paſſed the ſources of the Indus and the Panje-ab, and he preferred the Attock river as a boundary to any other; he preſcribed this, therefore, to the conquered Mahommed, and at the ſame time carried his claim to the circar of Tatta and its dependencies, including the whole Delta, as bounded by the eaſtern-moſt branch, or Nala Sunkra, and eſtabliſhing [239] Lohry-Bundar (evidently beyond that line) as the extent of the Mogul empire.

There is nothing but the term Nala which hinders me from eſtabliſhing this as the very channel navigated by Alexander; and though no modern accounts have ever been attainable to aſcertain the paſſage down this branch, yet I have no doubt that while commerce flouriſhed on the Indus this was the immediate courſe of communication, as trade always flowed to Guzerat, and the coaſt of Malabar naturally, rather than to any port on the weſt of the Indus. If the preſent Nala be a genuine ſtream, there is no difficulty in adopting it; if it is an old channel cleanſed, it might aſſume the

[238] The Oritæ partook of Indian manners, but were not Indians.

[239] Written Seuheri by Otter, vol. i. p. 409, perhaps for Leuheri. Lohry is Lari-bundar, thus ſpelt in the treaty; this is what our Engliſh authorities call Bundar Laree, to diſtinguiſh it from Lari-bundar on the weſtern branch, or Daraway. Better knowledge of the language will poſſibly diſcover the application of this term to both.

name of Nala; and if it is a new cut, it cannot be of very late date; for the commerce on the Indus is ruined. In any view, it muſt be nearly parallel with the ancient channel, and at leaſt part of the courſe purſued by the Macedonians. Alexander himſelf aſſumed the office of exploring this paſſage; and no commander was ever more perſonally entitled to the honour accruing from the ſucceſs of his deſigns, or contributed more by his own exertions to the accompliſhment of them: In battle he conſtantly fought at the head of that body on which the fortune of the day depended; in all expeditions [240] he perſonally executed that part which preſented the greateſt difficulties; and in every ſcheme of magnitude, after procuring the beſt information, he was the firſt to try the ground himſelf, before he committed [241] the execution of it to others.

It was in conformity to theſe principles of conduct that he now determined to explore the eaſtern branch of the Indus; conqueſt was at an end, for the barrier of the empire was determined on; and evidently no object was before him, but either the ſafety of the fleet in the choice of a paſſage, or that ſtill greater ſyſtem of commerce which he had meditated, to connect the intereſts of Europe and India, and of which the ſucceſs of Nearchus was to be the origin and commencement.

He departed from Pattala apparently with the ſame eſcort as before, and fell down the ſtream till he arrived at a lake or bay, which was of great extent, and received its ſupplies from other waters in the adjacent tract. But as we know the Indus receives no tributary ſtreams after it paſſes Behker, we muſt conclude that theſe

[240] He ſent Craterus through the midland provinces, and marched himſelf through Gadroſia.

[241] He viſited the ſtagnant pools from the inundation of the Tigris and Euphrates, and planned the barrier at Pallacopa.

waters

waters in the neighbourhood can be no other than different channels, which branch from the main river and interſect the Delta in different directions; thus is Arrian, who mentions but two channels, compelled to bear witneſs to the exiſtence of more. And would not this be the caſe with the Macedonians themſelves? They navigated only two ſtreams, and therefore deſcribed but two; they have nevertheleſs recorded the circumſtances which occurred, and theſe circumſtances prove more to us than to thoſe concerned in the tranſaction.

This lake [242] is evidently no more than a bay into which the eaſtern channel falls, and muſt be ſearched for in vain at the diſtance of twenty centuries, conſidering the nature of the river, and the accumulations at its mouth. It is deſcribed by Arrian as very extenſive, and abounding in all the ſpecies of fiſh which are common to the neighbouring ſea. At the head of this bay Leonnatus and the greater part of the forces were put on ſhore, while Alexander proceeded with the gallies to take a view of the ocean. He obſerved the paſſage here more open and convenient than that through the weſtern branch; and though he did not afterwards ſend the fleet down this channel, we may collect that he intended to uſe it as the means of communication with the coaſt of Guzerat and Malabar, by the tranſactions which took place; for as ſoon as he had anchored he landed with a body of horſe and, proceeded three [243] days march along the coaſt, making obſervations on the country, and directing wells to be ſunk.

[242] Q. Curtius, who knows nothing of the paſſage down this branch, finds a lake on the other, where thoſe who bathed became leprous, but were cured with oil. Lib ix. p. 9.

[243] Probably fifty or ſixty miles.

The general title of this tract is Cutch[244], and gives name to a bay on which it lies; the country is a desert inland, and seldom passed but by the caravans which used to travel between Guzerat and the Indus. Our modern journals still mark the wells which have been sunk to make the desert passable. Parallel to the coast runs a range of mountains called Chigoo; and the strip of land between these and the sea is the residence of the Sanganians[245], a race infamous for their piracies in the accounts of all our early voyagers. Along this level Alexander advanced, and the wells he sunk sufficiently indicate the object of his expedition.

If I understand Arrian right, Mr. Rennell[246] is mistaken when he supposes Alexander to have advanced westward along the Delta upon his landing in the direction that his fleet was to sail, for the fleet did not put to sea by this channel; and mention is afterwards made of a detachment that appears to have landed on the Delta, with orders to examine the coast, to sink wells[247], and then join the main army at Pattala[248].

Upon the conclusion of this excursion, Alexander embarked his horse again, and returned to the head of the bay where he had left Leonnatus. Here he directed a station[249] to be fixed, with a naval yard and dock, leaving a sufficient garrison for its protection, and provision for four months.

I enter into this detail of minute facts, in order to evince the reality of that foresight and prudence which I have all along attributed to this great commander; his character has been usually esti-

[244] Kartsch. De la Rochette.
[245] Hamilton had a battle with them.
[246] Postscript, p. 294.
[247] See Gronovius's Note, p. 259.
[248] Τὴν Παραλίαν.
[249] Possibly the Xylenopolis of Pliny. Lib. vi. p. 23.

mated

mated by the victories he gained and the ravages he ſpread; but the regulation of his empire, the ſecurity of his frontier, the extent of his commercial views, the ſurvey of his provinces, and the ſhare he took himſelf in every thing that concerned his government, lie obſcured by the ſplendour of his arms and the extent of his conqueſts. We are now to attend him back again to Pattala; and if I could give a ſatisfactory account of this eaſtern branch, I ſhould ſatisfy the curioſity of the moſt accurate inquirer: but Major Rennell, who ſays it is an hundred and ſeventy miles in extent, does not carry the Nulla Sunkra to Tatta, but much higher. Mr. de la Rochette's [250] map gives it a direction I could adopt, and makes a conſiderable bay at the mouth of it; but as I know not the authorities he follows, I am conſtrained to heſitate while I ſeek for evidence. The lower part of the Delta is interſected by a variety of channels which it is impoſſible to ſpecify; it is without wood, and abounds in camels; the upper part near Tatta was fertile in the beſt rice, and other produce of importance, while the country had any commerce; and cultivation being probably in a higher ſtate at the time the Macedonians viſited the country, the ſupport of three garriſons for its protection was neither ſuperfluous or oppreſſive.

Alexander did not ſtay long at Pattala after his return; he had previouſly determined to penetrate into Gadroſia, and explore the coaſt, in order to facilitate the ſucceſs of Nearchus; and from the circumſtances which occurred, we may collect that he moved near a month earlier than the fleet. Strabo mentions that he was ten months in his paſſage from Nicæa to Pattala; if, therefore, he had

[250] As does d'Anville Antiq. Geog.

ſet

ſet out on the twenty-third of October in the year three hundred and twenty-ſeven A. C., he came to Pattala in Auguſt three hundred and twenty-ſix; but the dates in the ſame author prove rather nine months than ten; and the concurrent teſtimony of other facts favours this eſtimate rather than the other. We cannot allow much leſs than a month for the tranſactions which took place at Pattala, including the navigation of the two ſtreams; if, therefore, he left that place at leaſt a month before Nearchus, as will preſently appear, he muſt have arrived there in the latter[251] end of July or the beginning of Auguſt, and left it early in September.

We ſhall be under no neceſſity of attending upon this expedition farther than it is connected with the progreſs of the fleet; but as there were two opportunities of communication embraced, and a third attempted, we muſt accompany the army into the country of the Arabitæ and Oritæ; after which, it will be ſufficient to ſketch the general courſe of the route into Karmania, where Nearchus joined Alexander again, and reported the account of his ſucceſs.

VII. I place the departure of the army from Pattala in the beginning of September, at which time Nearchus received his final orders, which directed him to take charge of the fleet, to prepare every thing neceſſary for the voyage, and to proceed to ſea as ſoon as the ſeaſon would permit.

Alexander proceeded into the country of the Arabitæ, lying evidently in that range of mountains before deſcribed, which com-

[251] Strabo, Lib. xv. p. 691.

They ſet out a few days before the ſetting of the pleiades, and ſpent the autumn of that year, the winter, ſpring, and part of the following ſummer, in their paſſage down the river; they arrived at Pattala about the riſing of the dog-ſtar, completing their navigation in ten months—but how ſo?—the pleiades ſet the 28th of October, and the dog-ſtar riſes the 26th of July, which makes nine months as nearly as is requiſite. How can we account for δεκα μηνας here, but by that perpetual error which pervades all the numerals in Greek authors?

mence

mence from the ſea and extend parallel with the Indus up to Kandahar. Theſe mountains are ſtill occupied by different tribes of the Belootches, whoſe habits to this day reſemble the manners of the people deſcribed by the Macedonians. They diſperſed at the approach of a ſuperior force, and collected again from their faſtneſſes as ſoon as the enemy was paſſed.

Theſe Arabitæ are mentioned by Arrian as an independent tribe, like the Belootches of the preſent day; as in fact all the inhabitants of mountains [252] either in Perſia or Hindoſtan have generally been. Their country ſeems to lie on one of the branches of the great chain, and extends into the plain as far as the river Arabis, which was the limit of India in the age we are treating of, and either at this river or at the mountains the boundary continued, till Nadir Shah, by his treaty with the Mogul emperor, removed it to the eaſtern ſtream of the Indus. Major Rennell's ſecond map defines this country and the ridge which ends at Cape Monze, agreeably to Arrian's account, and, from a variety of correſponding circumſtances, there is every reaſon to ſubſcribe to his opinion.

And here, as I ſhall have no better opportunity to mention a variety of facts, which will contribute to the perſpicuity of the narrative, I ſhall introduce a general view of the coaſt, and the peculiarities connected with it. The nature of the two coaſts of Malabar and Coromandel is now well known in Europe, as conſiſting of a tract of low land towards the ſea, below a line of mountains which encircle the whole centre of the peninſula; the ſame circumſtance ſeems to take place again on the bay of Cutch, where the

[252] Thoſe who wiſh to ſee a catalogue of the robbers inhabiting one part of Aſia, *i.e.* Taurus, Amanus, M. Caſius, &c. &c. may find a very extraordinary one in Mr. Baldwin's journal, publiſhed with Major Capper's route from Baſra to Aleppo.

Chigoo

Chigoo mountains appear running inland, parallel with the ſea, till they join the range of ſand hills which form the eaſtern branch of the valley in which the Indus flows; the centre of this valley is occupied by the ſtream, and at no great diſtance on the weſtern ſide another barrier is raiſed by the chain of black and rocky mountains ſo often mentioned; one ridge of which terminates not far from the weſtern mouth of the Indus at Cape Monze, the Eirus of the Macedonians. Out of this chain, at no great diſtance from the ſea, a branch ſhoots off again, running weſt or north-weſt parallel with the coaſt [253], and incloſing the level country of Gadroſia, parched and barren in the extreme. The modern name of this tract is Mekran, or Cutch [254] Mekran, and is ſpecified in Commodore Robinſon's journal, publiſhed by Lieutenant Porter by the name of Bloachee, and Brodia. Bloachee is a corruption of Balotchee, and I imagine the coaſt is ſo called as far as the influence of the Belootches [255] extends, and, where that ends, Brodia. That this branch ſends off ſhoots towards the ſea at particular points ſeems probable; but that its general courſe is parallel with the coaſt, is aſcertained by Commodore Robinſon's [256] journal, and another of the Houghton Eaſt Indiaman, 1755, which I owe to the communication of Mr. Dal-

[253] It is nearly evident that a ſecond ridge ſhoots from this chain, forming the reſidence of the Oritæ.

Q. Curtius ſays, that Alexander waited at Pattala for the return of ſpring; not knowing that the change of the winds cauſes the difference of ſeaſons. He adds, lib. ix. p. 10. that Alexander made nine days' march into the country of the Arabites, and nine more into Gadroſia; ſubjoining, almoſt immediately, five days' march to the river Arabis. I could have made uſe of his eighteen days, if he had not deſtroyed his own conſiſtency.

[254] Gedje-Mekran; Rennell: from Kiz or Kidge, the capital.

[255] The boundary between Bloachee and Brodia is fixed by Lieutenant Porter at Guadel; p. 5.

[256] "The land, as in all other parts of the coaſt [of Bloachee], is extremely low by the ſea ſide, and very high in the country." C. Robinſon. Lieutenant Porter, p. 2.

rymple. In all this level country no river[257] has a longer courſe than from the mountains to the ſea; in which it reſembles the coaſt of Malabar, where almoſt all the rivers riſe weſtward[258] of the Ghauts. One branch of this range, I imagine, verges towards the ſea, not far eaſtward of Cape Jaſk, ſeparating Gadroſia from Karmania; but no ſooner are we paſt that promontory than we find the ſame face of the country return, a level tract along the coaſt called the Kermeſir, or hot country, with a range of mountains inland. This range, Mr. d'Anville ſays, is never cut by any river, but ſtretches on uninterrupted till it joins the mountains which encircle Perſis and Suſiana. Here the Tigris ſtops its farther progreſs, and ſends it off with various curvatures till it joins the mountains of Armenia. Theſe general properties attending the whole range of coaſt almoſt from the mouths of the Ganges to the Tigris, preſent one of the boldeſt features in the geography of the world, and become of more importance, as theſe mountains connect with that extraordinary chain which extends on the north of Perſia acroſs the ſources of the Indus, forms the barrier of Hindoſtan, and penetrates through the extremity of Aſia, till it falls into the ſea of Amoor, on the north of China.

There is no part of Arrian's hiſtory where theſe general circumſtances connect with the tranſactions of the Macedonians, which is unworthy of the attention of geographers; and, on the particular coaſt of which we are now to treat, nothing which the moſt accurate inveſtigation of modern inquirers has not confirmed. He has

[257] Mr. de la Rochette marks the Tarka-Banca as riſing beyond the mountains; but, as no memoir accompanies his map, I know not on what authority. Otter, however, countenances this opinion.

[258] It is not ſo on the coaſt of Coromandel, the Nerbudda, Kriſtna, Ganga, and Caveri, &c. all riſe above the Ghauts, and near the weſtern range.

traced the line of theſe mountains, from Paropamiſus to the ſea, with as much preciſion as the Ayeen Akbari; and he has brought the army to that paſs over them, which continues to this day the route of intercourſe between the Indus[259] and Mekran; if intercourſe there can be, where the roads are expoſed to banditti, and where there is little power or attention in government to protect the intereſts of commerce.

Arrian does not indeed expreſsly ſtate, that Alexander paſſed a line[260] of mountains in this march; but it may be collected from what he has ſaid above, that the range in the country of Muſikanus, or Sambus, extended to the ſea. He advanced with a body of horſe and light troops, leaving the remainder to follow under the command of Hephæſtion; the natives fled into the deſert on his approach; in purſuit of them he paſſed the Arabis[261], a narrow ſtream with little water, and advancing through the deſert all night, reached the habitable country in the morning. This was the reſidence of the Oritæ. Here he left his infantry to follow in due order; and, ſpreading his

[259] See the Nubian Geographer, p. 57, et ſeq.

[260] The exiſtence of this range is indiſputable, for the Ayeen Akbari ſays, "there "is another range, one extremity of which is "in Kutch, (the coaſt weſt of the Indus,) "and the other joins to the territory of the "Kulmanies, where it is called Karch. It is "inhabited by four thouſand Belootches." Vol. ii. p. 143.

It has already been ſhewn that the Kulmanies are on the parallel of Sewiſtan, and probably occupy the territory of Sambus; this range, therefore, that runs from thence to Kutch, (the coaſt,) can be no other than the one occupied by the Arabitæ or Oritæ. I am perſuaded with Major Rennell, that there are two of theſe ranges, one belonging to each; and nothing hinders me from aſſerting it but the appellation of Karch, which affords a ſuſpicion that Kar has ſome relation to Har, Haûr, Hor-eitæ, Or-eitæ.

"The land at the back of Crotchy is pretty "high, and extends ſo to C. Monze." Lieutenant Porter, p. 2. I ſhall ſhew hereafter that Crotchy is the Crocala of Arrian; and C. Monze, Eirus, or Irus: and I conſider this evidence of Porter as full proof of the exiſtence of a chain previous to the river Arabis.

[261] See *ſupra*, the Hend of d'Anville and de la Rochette, and the Arabitæ; perhaps the Hendiàns of the Ayeen Akbari.

I cavalry

cavalry over the country, ſlew all that reſiſted, and brought in a great number of priſoners. The army then halted at a ſmall [262] ſtream for the arrival of their light infantry and the junction of Hephæſtion. As ſoon as they came up, Alexander himſelf moved to Rhambacia [263], the principal village of the Oritæ; he found the ſituation advantageous, and directed Hephæſtion to fortify it as a poſt, while he proceeded again to the confines of Gadroſia. Here the Oritæ who had fled, after being joined by the Gadroſians, had taken poſt in a paſs that was narrow and difficult of acceſs (apparently on the ſecond of thoſe [264] chains already mentioned); and this paſs they determined to defend. Upon his approach however they diſperſed, and the Oritæ ſent offers of ſubmiſſion. He ordered the chiefs to

[262] Probably the ſtream we ſhall hear of again under the name of Tomerus.

[263] Ram, or Rham, has doubtleſs a ſenſe in Shanſkreet. There is a Ram Raja in the Mahratta country; another Ram mentioned in Nadir's treaty; and Ram-nagar in the Ayeen Akbari, as lying in the courſe of the mountains north of Gadroſia. I ſee no reaſon why this laſt may not be Rham-bacia; but I find no Ramnagar in the maps. See Snakenborck Not. ad Curt. lib. ix. p. 10.

[264] I have before appealed to [C. Robinſon] Lieutenant Porter, for the exiſtence of a range which falls in at C. Monze, or Irus; and I think we have his authority for a ſecond ridge between the Oritæ and Gadroſia, which falls in at Cape Moran, or the rocks of Kingalah. Moran, I have no doubt, is the Malana of Arrian, which he ſays is the weſtern limit of the Oritæ; and a bluff head-land, mentioned here by Lieutenant Porter, is, I apprehend, the termination of the ridge. Moran is marked by d'Anville with the title of Malan; and conſidering how eaſily *l* paſſes into *r*, both to the ear and by pronunciation, no doubt remains that the Malana of Arrian, the Malan of d'Anville, and the Moran of Porter, are the ſame. See Lieutenant Porter, p. 3. I have met with Malan and Mahlan in other journals. Mr. d'Anville, p. 44, Antiq. Geog. quotes Thevenot; and Thevenot mentions Malan, p. 194, Eng. ed. but with ſuch obſcurity, (for he did not ſee it,) that it is not eaſy to aſcertain whether he means to ſay it is twenty or forty leagues from Scindi.

" Cudjerah appears a low point, but ter-
" minates in a bluff, as by its laſt appearance
" with C. Moran." Lieutenant Porter, p. 3.
" The land from Sommeany, [the mouth of
" the Arabis,] runs extremely low next the
" ſea, but the back is very cragged, and con-
" tinues ſo to Cudjerah." Id. ibid. All theſe teſtimonies indicate a ridge tending to the ſea at Malana; and here, where Arrian places the boundary of the Oritæ, we ought to find it.

collect the fugitives, and ſend them to their reſpective habitations, under a promiſe of ſafety and protection.

Apollophanes was appointed ſatrap of the province, and Leonnatus was left with the Agrians, a body of archers, horſe and infantry, and the whole of the Greek cavalry in the ſervice. Theſe forces were intended to ſupport the regulation of the province, to ſuperintend the eſtabliſhment of the city, and to wait the arrival of the fleet on the coaſt. Alexander [265], upon leaving Pattala, had deſigned to have proceeded along the coaſt and attend to this ſervice himſelf, by digging wells and collecting ſuch ſupplies as the country afforded; but he had been diverted from this purpoſe by the flight of the Arabitæ and Oritæ; and as he was now at the entrance into Gadroſia, where he foreſaw the difficulties he was to encounter, he was deſirous of proceeding with all diſpatch, and left the protection of the country and the fleet to Leonnatus. That officer approved himſelf worthy of the charge; for ſcarce had Alexander left the province before the Oritæ, with the neighbouring tribes, collected again into a body [266] and attacked the forces left for its defence. A victory over ſuch an enemy as this was perhaps no great atchievement; but as Leonnatus ſlew ſix thouſand natives, ſaved the province, and relieved the fleet, his ſervices were rewarded with a crown of gold when he afterwards joined the main army in Suſiana [267]. Neither ought we to undervalue the merit of this ſervice; for this part of the coaſt, before we enter Gadroſia, appears neither deficient of inhabitants or the means of ſupporting

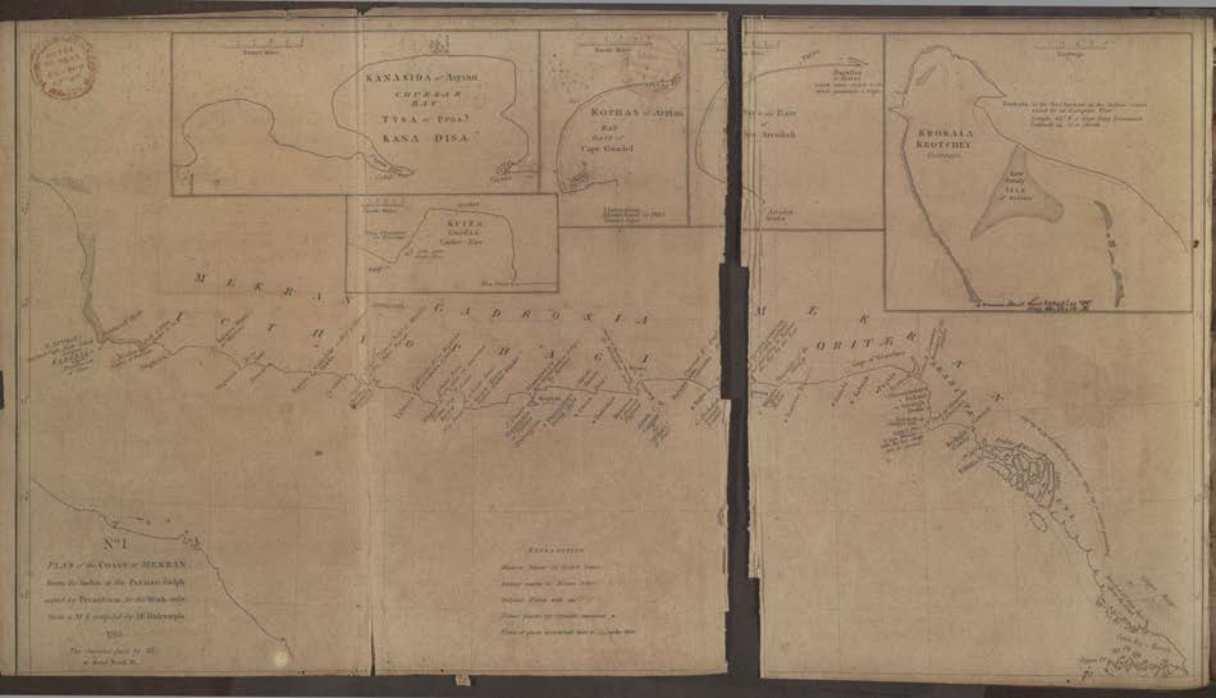
[265] See Arrian, p. 260.

[266] Eight thouſand foot, five hundred horſe. Q. Curt. lib. ix. p. 10. The reverſe is more credible, for theſe tribes are all mounted.

[267] He probably joined in Karmania, but received the crown in Suſiana.

them.

them. The natives, as poſſeſſors of a mountainous country, were probably hardy, and accuſtomed to a life of pillage, neither unacquainted with the uſe of arms, nor without courage to maintain their independence. They are deſcribed by Arrian as not being an Indian tribe, for India ends at the Arabis; but as being the laſt people whom Alexander found with Indian manners. As ſoon as he entered Gadroſia, he was properly in Perſia; and the diſtreſs he experienced in that province ſhall be no farther noticed than as it is connected with the navigation of the fleet, to which we muſt now return.


KANASIDA or Arrian
CHURBAR BAY
TYSA or Prol.
KANA DISA
KOPHAS or Arrian
BAY of Cape Guadel
KUIZA
Guidal
Cutter River
KROKALA
KROTCHEY
Cape Arrabah
Arrabah Gulf
MEKRAN
GADROSIA
ICTHYOPHAGI
MEKRAN
ORITÆ
Nº 1
PLAN of the COAST of MEKRAN
from the Indus to the Persian Gulph
acquired by Pennsylvania for the Wash-ends
from a M.S. compiled by W. Galrymple
1760
EXPLANATION

THE

VOYAGE

OF

NEARCHUS.

BOOK III.

COURSE from the INDUS to CAPE JASK.

I. *Coaſt of the Arabies, or Arabitæ.*—II. *Coaſt of the Oritæ.*—III. *Coaſt of the Ichthyophagi.*—IV. *Diſſertations.*

I HAVE already fixed the departure of the fleet from the Indus on the ſecond of October, in the year three hundred and twenty-ſix A. C. and though I might have taken advantage of Strabo's authority to poſtpone this date to the tenth, I ſtill prefer the preciſion of Arrian to the general date of the Geographer. The north-eaſt monſoon, which commences in November and becomes ſettled in December, makes a later day more agreeable; but as we ſhall immediately ſee that Nearchus, after having cleared the river, was obliged to lie in harbour twenty-four days, till the ſeaſon

was

was favourable, and other circumſtances of the voyage mark the commencement and vigour of the monſoon, the method purſued to fix the date is not liable to objection.

The reaſon for proceeding before the monſoon commenced, is aſcribed by Strabo to the diſcontent of the natives; and we may obſerve, that though Mæris, the chief of Pattala, had previouſly made his ſubmiſſion to Alexander, he fled on the approach of the fleet, and no mention is afterwards made of his return, or his being brought in by the troops who were ſent in purſuit of him. His flight into the deſert, we may conclude, was on the eaſt of the Indus; for had it been on the weſt, we ſhould have heard of ſome attempt to recover him, when the army proceeded in that direction; but as no ſuch circumſtance occurs, we muſt ſuppoſe that he returned as ſoon as he heard of Alexander's departure, and endeavoured to recover the province he had loſt.

This tranſaction throws light upon the narrative of Arrian, and reconciles the difficulty ariſing from the departure of the expedition before the ſeaſon. Arrian [1], however, is ſo far from acknowledging it, that he mentions the performance of the games and ſacrifices uſually adopted on ſuch occaſions, which intimate neither haſte or confuſion at the actual moment of embarkation. But there is one

[1] The paſſage in Strabo is too expreſs to be omitted.

Καὶ δὴ καὶ φησὶν ὁ Νέαρχος, ἤδη τοῦ βασιλέως τελοῦντος τὴν ὁδὸν, αὐτὸς μετοπώρου κατὰ Πλειάδος ἐπιτολὴν ἑσπερίαν ἄρξασθαι τοῦ πλοῦ, μήπω μὲν τῶν πνευμάτων οἰκείων ὄντων, τῶν δὲ βαρβάρων ἐπιχειρούντων αὐτοῖς, καὶ ἐξελαυνόντων· καθαρρῆσαι γὰρ απελθόντος τοῦ βασιλέως, καὶ ἐλευθεριάσαι. Lib. 15, p. 721.

Nearchus ſays, that after Alexander was upon his march, he ſet ſail himſelf on the evening riſing of the Pleias, though the wind was not yet favourable. But the natives attacked them and drove them out, having reſumed their courage on the departure of the king, and wiſhing to recover their independence.

If theſe circumſtances were in the journal of Nearchus, which there is every reaſon to believe, Arrian cannot be juſtified in ſuppreſſing them.

particular

particular relating to the departure, which, if Arrian intentionally ſuppreſſed the flight of the Macedonians, ſeems to indicate the reality of it; which is, that the fleet, according to his own account, did not take its departure from Pattala, but from a ſtation near the mouth of the river. This ſtation is doubtleſs the poſt Alexander had formed, and probably at Killuta [2] (Killoota); for there, our author ſays, he had found water and good anchorage, with protection both from the tides and the monſoon. If I had any actual data for fixing the Debil-Scindy of our modern maps at the mouth of the Lari-bundar river, or could aſcertain its ſize and poſition, I ſhould have little heſitation in aſſerting its identity with Killuta, for Debil-Scindy is only a Perſian or nautical corruption of *Dev*, or [3] Dive-il-Scindi, the iſland of the Scind, or Scindi.

Were I to form a poſition for Dive-il-Scindi from ſuch obſervation as I can collect, it ſhould lie on the eaſt of the Lari-bundar entrance, running up from ten to fifteen miles from the bar, and then ſeparated from the Delta by a branch or channel of the main ſtream, which ſhould entitle it to its inſular name and ſituation. The courſe of its ſhore where it formed the eaſtern bank of the river ought to incline north-eaſt and ſouth-weſt. Whether this is really ſo I pretend not to aſcertain; but if ever it ſhall be aſcertained, or if ever the mouths of the Indus ſhall be laid down with the ſame accuracy as thoſe of the Ganges and the Euphrates, I dare to predict [4] that, with due allowance for variation on the coaſt, and the

[2] ἄφαντες ἀπὸ τῦ Ναυσάθμυ.

[3] *Dive* is either Tamoulian or Malabar. Selen-dive is Ceylon. Lack-dives, Mal-dives, Anje-dives, are all cluſters of iſlands. Diu in Guzerat is another form of corruption. See d'Anville Eclair.; and Selen-dib, which we meet with in Oriental orthography, gives the change of *v* into *b*, in Dib-il-Scindy. *Il* is written *el*, *al*, or *ul*, of.

[4] D'Anville's account of Debil Sindi, from Pimentel, favours theſe conjectures. Antiq. de l'Inde, p. 38.

accumulation of two thouſand years, theſe conjectures will not be very diſtant from the truth.

But if Nearchus took his departure from a ſtation [5] at this iſland, and not from Pattala, (as will immediately appear,) though it does not amount to proof that he was driven from thence by the natives, it affords great reaſon to ſuſpect it, and to confirm the aſſertion of Strabo, who copied from the journal of Nearchus as well as Arrian.

Wherever we place this ſtation, it was only an hundred and fifty ſtadia [6], or little more than nine miles from the mouth of the river; for Arrian gives two diſtances, one within the bar and another from the bar to Krokala, each of an hundred and fifty ſtadia; and as the latter correſponds within a mile to the actual meaſure of the coaſt, we cannot without injuſtice ſuſpect the former of inaccuracy.

Anno 626. A. C. Oct. 2. Oct. 3, 4, 5. When the fleet weighed from this ſtation, the firſt day's courſe down the river [7] was only ſix [8] miles, and they anchored at a creek [9] or inlet called Stura (Stoura [10]), where they continued two days; on the follow-

[5] This is the place intimated by Pliny as the Xylenopolis, from whence the voyage commenced. Unde ceperunt exordium. Lib. vi. c. 23. But the whole is dubious.

[6] I have before examined d'Anville's ſtadium of fifty-one French toiſes, and ſhewn its general conformity upon the whole voyage; I pretend not to aſcertain its accuracy in particulars, nor ſhall I trouble myſelf or the reader with fractions; one thouſand one hundred and eleven of theſe ſtadia, with a fraction, make a degree of a great circle; fifteen of theſe ſtadia, with a fraction minus, are equal to a Roman mile of ſeven hundred and fifty-ſix toiſes; and ſixteen, with a fraction plus, are equal to a mile Engliſh of eight hundred and twenty-ſix. I ſhall neglect all theſe fractions, becauſe accuracy is unattainable in the application of individual diſtances. To ſtate this preciſely where preciſion cannot be obtained, is affectation. I uſe the toiſe, a French meaſure, becauſe Mr. d'Anville's is the beſt calculation on this ſubject.

[7] Arrian has no where given us the name of the weſtern channel, but Ptolemy calls it Sagapa, and places it in longitude 110° 20', latitude 19° 50'.

[8] One hundred ſtadia.

[9] διώρυχι μεγάλῃ, a large nullah.

[10] I ſhall preſerve generally the Greek orthography for the contemplation of Oriental etymologiſts.

ing

ing day they weighed again, but came to an anchor at Kaumana [11] before they had proceeded two [12] miles. In the creek here they found the water ſalt, or at leaſt brackiſh, even upon the tide of ebb. The next day's [13] courſe was little more than one [14] mile to Koreatis; and ſcarce had they weighed from hence before they were checked by the violent agitation now viſible at the bar [15]; for as they had proceeded with the tide of ebb, the wind was conſequently in a direction exactly oppoſite. This brought them to an anchor again immediately; when, after waiting till it was low water, they obſerved that the projecting ſand (which probably formed the bar) was ſoft and oozy near the ſhore, and little more than a quarter of a mile in breadth. This they determined to cut [16] through, as the readieſt and ſafeſt paſſage into the open ſea. They had ſo far effected their purpoſe during the receſs of the tide, that upon the return of the flood they carried their veſſels through it [17] in ſafety, and after a courſe of about nine miles [18] reached Krokala the ſame day. Here they remained the day following.

Oct. 6.

Oct. 8.

Oct. 9.

[11] In the preſent deſolation of this coaſt and the Indus, it is not probable that any relation to Stoura, Kaumana or Koreatis, ſhould be diſcoverable; they appear all to be names of nullahs cut for purpoſes of agriculture or communication; and theſe nullahs, we may conclude, have been all obſtructed. I preſerve the names, however, for the conſideration of ſuch as may hereafter viſit this country. The names in Gronovius's beſt MS. are written Kaumara and Koreeſtis. Koreacatis, Dodwel, Geog. Min. Freinſhem. Curt. ix. 9. 9. and ix. 9. 20, mentions, on the authority of the academicians at Coimbra, the violent tides on this coaſt, and the neceſſity of theſe nullahs, or διώρυχες, for the ſafety of veſſels which navigate either the coaſt or the river.

[12] Thirty ſtadia.

[13] A day not ſpecified, but allowed.

[14] Twenty ſtadia.

[15] Ἔμμα. *Scindi* bar is known to all navigators on this coaſt, and I imagine *every* mouth has its bar.

[16] I have allowed two tides for this, or twenty-four hours; it poſſibly was one only.

[17] Mouth of Lari-bundar river, in latitude 24° 44′. Rennell, Poſtſcript.

[18] Allowed two days.

ARABIES, OR ARABITÆ.

KROKALA. CROTCHEY. Oct. 9. First ſtation.

Krokala is the Crotchey[19] bay of Commodore Robinſon; and it is with infinite concern I repeat the complaint of Mr. Dalrymple, that the views which were taken during this gentleman's ſurvey of the coaſt never reached his hands. I preſent to the reader, however, a Plan[20] of this Bay, by Lieutenant Maſcall, taken in 1774; and I feel great ſatisfaction in exhibiting the firſt harbour in the Indian ocean, in which an European navy ever rode. Krokala[21], ſays Arrian, is a ſandy iſland, and ſuch an iſland, dry[22] at low water, we ſtill find in

[19] Written Caranchy Carrangee, &c. and by Gronovius, Κρώκαλα (Crocela), from his beſt MS. The Greek language has no *ch*.

[20] Furniſhed by Mr. Dalrymple. Lieutenant Maſcall was an officer on board Commodore Robinſon's ſhip. [See a Plan of this Bay in Chart, No. 1.]

"From the mouth of the Larry Bunder "river is ſeen part of the high land over "Crochey. There is nothing remarkable "between that place and Crochey. The "land by the water-ſide is low, interſperſed "with ſhrubs; but up the country there are "ſeveral hummocks of moderate height." Lieutenant Porter. Com. Robinſon, p. 1. This is the riſing to the ridge at Cape Monze, which I have marked before as the eaſtern limit of the Arabitæ. "Crochey (the town) was "formerly under the Bloaches, but is now "ſeized by the prince of Scindy." Id. p. 2. It is five miles from the bay, and one from a creek which falls into the bay. The people are deſcribed as civil. Poſſibly the Belootches are not worſe robbers than their more refined neighbours.

[21] Major Rennell ſuppoſes Crotchey to be the port of Alexander. Poſtſcript. But that is impoſſible, as the fleet evidently paſſes Cape Monze before it reaches that port.

[22] I here follow the authority of Lieutenant Maſcall's drawing; but Lieutenant Porter's journal ſays, there are ſeveral iſlands to the northward; and that the entrance into the bay is generally between a promontory, on which a white tomb ſtands, and the largeſt of the iſlands. This iſland can hardly anſwer to the νῆσος ἀμμώδης of Arrian. Lieutenant Porter. C. Robinſon, p. 1. For by the plan it appears high; and I conclude the low iſland mentioned by Arrian to be that ſand in the heart of the bay, dry at low water. Probably the firſt iſle mentioned at C. Eirus by Arrian, and marked as a ſhoal by Dalrymple, is likewiſe dry at low water, or viſible ſome tides. It is ſufficient, however, for Arrian's aſſertion, that this ſhoal ſhould mark ſuch a ſpot, which, though viſible formerly, may be now conſtantly covered by the ſea.

this

this bay. It lies in latitude 24° 28′ twelve leagues from Scindi bar, and, according to Captain Prittie's chart, ten nautical miles from Lari-bundar river. The latter diſtance is ſo nearly correſpondent with the meaſure I aſſign to Arrian, that I regard it as a full demonſtration of the identity of the place, and a high teſtimony of the accuracy of the journal. If I were curious to reduce the two diſtances to a coincidence, I might add ſome fractions to the ſtadia, and ſuppoſe the cut through the ſand [23] to have ſhortened the courſe. But I mention once for all, that where I find a general correſpondence I ſhall not inſiſt upon minute difficulties.

But if the diſtance from the bar to Crotchey is eſtabliſhed, the courſe from the point of departure to the bar muſt be of neceſſity allowed; both are given at an hundred and fifty ſtadia by Arrian, and if one is true, the other can hardly be erroneous. However, therefore, I may be miſtaken in my poſition of Killuta, or my conjecture of its identity with Dive-il-Scindi, I afford means for the correction of my error by any future navigator who ſhall viſit the river with a knowledge of the preſent work. I conceive the cut through the ſand to be made at the point where the bar formerly joined the weſtern ſhore of the Lari-bundar channel; and in any poſition about nine miles above that, which affords ſecurity from the tide of flood and the prevailing monſoon, I conſent to place the ſtation [24] from which Nearchus departed.

[23] However extraordinary or ſuperfluous an attempt of this kind may appear to modern navigators, the difficulty of carrying a fleet of Greek gallies out to ſea in oppoſition to the monſoon, is at leaſt as great as the danger Xerxes would have encountered in doubling Athos: and even after the neck of that promontory was cut, he had two more to paſs.

[24] The ναυστάθμος of Arrian.

I am perſuaded it is on the eaſtern ſide of the channel; but recommend it to future inquiry.

At Krokala, Arrian places the commencement of the territory of the Arabies, and its termination at the river Arabis. The aſpect of the inner country from the ſea, as given by the modern journals, is perfectly agreeable to this poſition and the riſing of the land from hence to Cape Monze, conſiſtent with the idea I had formed from conſideration of the author's text.

Irus. Eirus. Cape Monze. Oct. 9.

Weighing from Krokala[25], the fleet proceeded to the weſt, having a promontory named Irus on the right, and a low iſland almoſt level with the ſea on the left; this iſle runs parallel with the coaſt, and ſo near as to leave only a narrow channel[26] winding between both. They cleared this paſſage, and doubled the Cape, apparently under the protection afforded by the iſlet againſt the prevailing wind; the coaſt, as ſoon as they had paſſed the ſtreight, preſented a bay or harbour under cover of a ſecond iſland called Bibacta, not more than three hundred[27] yards from the entrance.

[25] Crotchey town is ſituated about five or ſix miles from the place where the ſhips lie. It is fortified with a mud wall, flanked with round towers, and has two uſeleſs cannon mounted. It formerly belonged to the Bloachees (Belootches); but the prince of Scindi finding it more convenient for the caravans out of the inland country, which cannot come to Tatta, on account of the branches of the Indus being too deep for camels to paſs, he obtained it from the Belootches by exchange, and there is now [1774] a great trade. Lieutenant Porter, p. 2.

This prince of Scindi is a Mahometan of Abyſſinian extraction; his reſidence at Hydrabad on the Indus, near Nuſſerpoor, which lies not far from the head of the Delta. Rennell. Poſtſcript, p. 291.

From Porter's account, I collect that Hamilton's route muſt have have been within the Delta, for his caffila or caravan conſiſted of fifteen hundred beaſts, as many men and women, with two hundred horſe; all theſe muſt have croſſed the Indus, or Lari-bundar river, at leaſt once, if not twice, had they marched to the weſtward of the ſtream, which, by Porter's account, appears impracticable; if ſo, Major Rennell's poſition of Lari-bundar and Dungham is on the wrong ſide of the river.

[26] γενὸν κολπόν. Fretum ſinuoſum.

I would render it with an allowable licence, *a paſſage curving with the land.*

[27] ταλίους δύο ἀπέχοντα.

This

This harbour Nearchus thought ſo large and commodious [28], that he honoured it with the name of Alexander, and determined to avail himſelf of the ſecurity it afforded, till the ſeaſon ſhould be more favourable for his progreſs. A camp therefore was formed on ſhore, and fortified with an incloſure of ſtones to guard againſt any attempt of the natives; and this precaution was no more than neceſſary, as they were now within the confines of the Arabitæ, whom Alexander had attacked and diſperſed not many days before their arrival. Security both from the natives and the ſeaſon they found; but the people ſuffered greatly, having no water but what was brackiſh [29], and little food to ſupport life except muſcles [30], oyſters, and another ſpecies of large ſhell-fiſh [31] which they collected on the ſhore.

Such an harbour as this port of Alexander is deſcribed, ought to be more diſcoverable on this coaſt at preſent than in reality it is; for Lieutenant Porter ſlightly mentions, that as ſoon as you are round the Cape there is *a kind of bay*; but with whatever indifference an Engliſh navigator might view this, it was really an haven to a Greek fleet of gallies, affording good anchorage under ſhelter of the iſland; and however ſlight our modern intelligence is of the harbour itſelf, the poſition of it is indubitable; for Eirus is Cape Monze, and Bibacta, Chilney Iſle. Upon this point there can be no heſitation, ſince the publication of Mr. Dalrymple's laſt chart of the coaſt. Previous to that, I had looked in vain for the two

[28] μέγας τε καὶ καλὸς ὁ λιμήν. *A large and good harbour.* In what ſenſe our author uſes this expreſſion will appear at the Arabis, or Sommeany.

[29] ἀλμυρὸι.

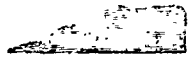
[30] Μύας θαλασσίους. Any ſhell-fiſh, ſays Salmaſius, which has two ſhells to open and ſhut. From μύειν, nictere. Exercit. Plin. p. 1129. Gronovius in loco.

[31] Σωλῆνας is explained by neither; but is, I conceive, the Kima cockle. See *infra*.

iſlands

iſlands deſcribed by Arrian, where I could find one only; but the new chart gives a ſand (dry [32] perhaps only at low water) in the very poſition off the Cape as laid down by Arrian, and Chilney for a ſecond iſland correſponding exactly with the Bibacta of that author.

Cape Monze, according to Major Rennell [33], lies in longitude eaſt from Greenwich 65° 46′, and in north latitude 24° 55′. Commodore Robinſon's chart does not mark the longitude.

Chilney Iſle [34] appears immediately as you are paſſed the Cape, lying off ſhore to the ſouth-weſt in the very direction for covering the fleet in the bay, and of a height ſufficient to interrupt the blaſt of the monſoon; for it is near a league long, and riſes as it is exhibited in this form:  It is the more material to fix this point accurately, as we cannot depend fully on any other till we come to the river Arabis. From Cape Monze to that river the coaſt falls in with a ſweep or hollow, round which we muſt trace the courſe of the fleet cloſe in ſhore; but we cannot hope to aſcertain the ſcite of ſtations where we have in the journal itſelf names only without habitations; and where, if ever habitations ariſe, the neighbourhood of the Belootches will hardly allow them to be permanent. The place and diſtrict around are called Sangada by Arrian, and the ſituation of the camp was evidently on the narrow ſtripe of low ground which

SANGADA Place.
BIBACTA Iſle.
PORT of ALEXANDER.
Oct. 10. Ninth day. Second ſtation.

[32] Mr. Dalrymple's chart does not authoriſe me to ſay that this ſand is ever dry. But the poſition is ſo preciſely conformable to Arrian's narrative, that there can hardly be a doubt but it was above water, and viſible to Nearchus two thouſand years ago.

[33] Poſtſcript.

[34] Longitude 60° 40′ from Gibraltar, north latitude 24° 57′. De la Rochette.

extends

extends cloſe to the ſea, all round the ſweep from Cape Monze to Sommeany, or the Arabis, with a chain of high land at its back, which terminates at the promontory.

In this camp Nearchus continued four-and-twenty days; during all which time the monſoon continued without wavering, and with unremitted violence. This interval brings our account down to the third of November before the fleet could again proceed; a date that accords admirably with the day aſſumed for the original departure from the Indus: for the monſoon changes in the middle of November, and there is always an interval of fluctuation between the termination of one and the commencement of the other. Some remiſſion of this ſort might regularly occur about the third of this month; and it will appear by the ſhortneſs of the courſe for the following days, and the very cloſe adheſion of the fleet to the coaſt, that the fluctuation had taken place; that the wind was ſtill adverſe in general, only affording momentary remiſſions; that ſeveral days' courſe was lengthened as they approached the middle of the month; and that they did not obtain the full force of the north-eaſt monſoon till nearly about the commencement of December. Is it poſſible to advert to theſe circumſtances without confeſſing the internal evidence of authenticity which this journal contains; or without ſubſcribing to the teſtimony of Strabo, who aſſerts, that Nearchus was driven out of the Pattalene by the natives? What elſe could have induced that commander to encounter the hazard of navigating in ſuch a ſeaſon, and the danger of impending famine, but the dread of not being able to proceed at all, unleſs he eſcaped while it was in his power?

In the name of Sangada, or at Saranga the next ſtation but one, Mr. d'Anville is deſirous of finding the modern Sangadians, or Sangarians [35], a tribe famous for their piracies; but their ſcite is on the bay of Cutch. It is not impoſſible, however, that they have in all ages frequented the whole coaſt; and that places out of their own country, if infeſted by them, might take their name. All the pirates on the coaſt lie concealed behind the head-lands to ſurpriſe the veſſels as they come round. The pirates of Severndroog, on the Malabar coaſt, are mentioned as pirates by Strabo and the author of the Periplus; and it is equally probable, that the piracies of the Sangarians are as ancient; if ſo, the Port of Alexander, cloſe round Cape Irus, was exactly one of the poſitions they would occupy in order to ſeize veſſels coming from the eaſt; and had Nearchus ſailed with the monſoon, he might have found here an enemy unexpected.

DOMÆ. Third ſtation. Thirty-third day. Nov. 3.

From this port, upon a relaxation of the wind, the fleet ventured once more to proceed on the third of November; the courſe, however, was apparently cloſe in with the coaſt, and the progreſs ſhort of four [36] miles. They took refuge under an iſle called Domæ [37]. The coaſt itſelf was without inhabitants and without water; but the latter was found, and of a good quality, at the diſtance of little more than a mile [38] from the ſhore.

[35] Captain Hamilton was attacked by them, and beat them off. They are mentioned alſo by Porter, who ſays they come upon the coaſt of Brodee, or Mekran, as far as Churbar; but their reſidence is Jefferabad.

I do not find Jefferabad mentioned in Rennell, except a town of that name on the eaſt of the Ganges. I ſuppoſe this to be in Cutch, or Guzerat.

[36] Sixty ſtadia.

[37] There is a ſmall iſland marked in Commodore Robinſon's chart by Mr. Dalrymple. Whether I ſhould call this Domæ, as I have named it in the chart, No. 1. or reſerve it for two rocks mentioned afterwards, is dubious.

[38] Twenty ſtadia.

The

SARANGA. Fourth ſtation. Nov. 5. Thirty-fourth day.

The following day they proceeded nearly nineteen [39] miles to Saranga, and arrived not till night. Water was found here at half a mile from the ſhore.

SAKALA. MORONTOBARA, or MORONTOBARBARA. Fifth and ſixth ſtation. Nov. 6. Thirty-fifth day.

Weighing from Saranga, they reached Sakala and anchored on an open coaſt, when finding this poſſibly unſafe, they ſeem to have advanced again the ſame day [40], and paſſing two rocks ſo cloſe to each other that the oars of a galley might touch [41] both, after a courſe of about nineteen miles they came to Morontobara, a harbour with a narrow entrance, but ſafe, capacious, landlocked all round, and protected from the wind in every quarter. They thought it no ſmall atchievement to have paſſed theſe rocks in ſafety, for the waves ran high, and the ſea was in great agitation.

I ſhould wiſh to identify theſe rocks with the rock of Lieutenant Porter, which he lays down ten miles from Cape Monze; neither do I think the diſtance a great objection; for though I make it more than four-and-twenty miles by Arrian, it is evident that Nearchus kept as cloſe as poſſible to the ſhore, making an arc of a circle, while Lieutenant Porter deſcribes the diameter. But there are two [42] rocks in Arrian, and only one in the Engliſh journal; this circumſtance excepted, there appears no great difficulty in aſſigning the ſame poſition to both. I place Sakala and theſe rocks at no great diſtance from Saranga, becauſe the fleet appears to have anchored at the former, upon coming in ſight of the

[39] Three hundred ſtadia.

[40] Day allowed.

[41] They did not paſs between them, if we may judge from ἐκπλώσαντες, ἐκπερίπλωσαι, and yet διὰ τῶν σκοπέλων διέξπλουν implies the contrary.

[42] Within theſe thirty years there were three Needle rocks at the weſtern end of the Iſle of Wight; there are now only two.

rocks [43], ſoon after it had weighed on the fifth of November; and Morontobara [44] I place ſeventeen or eighteen miles by the bend of the coaſt to the north-weſt of the rocks. This harbour, or ſomething to repreſent it, I have no doubt will be found, if ever this coaſt ſhould be explored again; for the deſcription of it is very preciſe in Arrian, and its name (which in the language of the natives ſignifies the Port of Women) is the only one of Arrian's on this coaſt, which is retained by Ptolemy and Marcian of Heraclea.

That the courſe of the fleet was cloſe in with the ſhore is apparent from the particulars already ſpecified; and that the monſoon was not yet changed is equally evident from the danger encountered in paſſing the rocks at Sakala, for if the wind had been at north-eaſt it would have been off the coaſt; but it is clear, from the turbulence of the ſea, that it ſtill blew from the oppoſite direction, and lay full upon the ſhore. Both theſe aſſumptions will be juſtified ſtill more by obſerving that the following day, when they left Morontobara, they preferred an intricate courſe [45] between an iſland and

[43] I by no means inſiſt on Lieutenant Porter's rock for theſe two; though the circumſtances are probable, his rock, in point of diſtance, agrees better with Domæ.

[44] Morontobara will hereafter obtain an etymology either Arabic or Shanſkreet; and if ever this coaſt ſhould be viſited again, the harbour may perhaps be found, or the place occupied by it be aſcertained.

ὁ δὲ λιμὴν μέγας καὶ ἔυκυκλος καὶ βαθὺς καὶ ἄκλυστος· ὁ δὲ εἴσπλους ἐς αὐτὸν στενός.

Literally, "the harbour is large, well protected from wind on all ſides, runs far within the land, and is perfectly quiet; the entrance into it is narrow." I render ἔυκυκλος ſheltered, and βαθὺς running inland, from Homer's βαθύκολπος; and I wiſh a reference to be made from this paſſage to the deſcription of the Port of Alexander, which the author calls only μέγας καὶ καλὸς, large and good, and which a bay might be without being entitled to the other characteriſtics ſo particularly given to Morontobara.

[45] There is every reaſon to believe that it was an arm of the Arabis flowing round an iſland, now perhaps choked; or, if capable of inveſtigation, of no ſervice in the preſent ſtate of nautical knowledge.

the

the main, (ſo narrow that it appeared rather an artificial cut than a natural channel,) to the open paſſage without ſide of the iſland.

The harbour of Morontobara, with all its conveniences, preſented nothing to tempt men to a longer delay, who for almoſt forty days had found but a ſcanty ſupply of proviſions, and ſeem to have ſupported life by ſuch caſual means as the ſhell-fiſh on the coaſt afforded; they left it therefore on the following day, and proceeded towards the river Arabis [46], having an iſland on their left, and the main on their right. The paſſage through this channel was ſomewhat more than four miles [47], but ſo narrow, as to appear like a work of art; the coaſt was woody, and the iſland in a manner overgrown with trees of all ſorts. They did not clear the paſſage till the following morning, when they found the tide out, and the water ſhoal and broken [48]; they

ARBIS RIVER. Nov. 7, 8. Seventh ſtation. Thirty-ſixth and thirty-ſeventh day.

[46] Arbis, Arabius, Araba, Artabis.

See a very long note of Salmaſius, Plin. Ex. 1177, to prove that Arbis is the true orthography; but C. Arrubah or Arraba proves the contrary.

[47] Seventy ſtadia.

[48] ἠχείη. Gronovius has noticed the error of former editors, who render this word uſually by *rupes, ſcopulus, locus ſcopuloſus, littus ſcopuloſum*, &c. and in this inſtance, *per anguſta quædam loca*; but he has not with his general accuracy defined the proper meaning. I ſhall every where render it either *ſurf*, or the *ſhoal* which cauſes the ſurf; for the whole coaſt, both of the continent and iſlands in the Indian ocean, is expoſed almoſt conſtantly to a very extraordinary ſurf. See Marſden's Sumatra. And if it is not ſurf in this one inſtance, it is the breach of the ſea ariſing from the ſtraits, or narrowneſs of the paſſage; κατὰ ἠχείην γενήν. The word occurs frequently in the journal, and is uſed ἠχείη, ἠχία, and ἠαχία, from ἠάσσω *frango, cum ſtrepitu allido*. Lennep. in voce. And ſo ἠάχις *dorſum, à junctura vertebrarum; (patius disjunctura,)* capability of ſeparation, from ἠήσσω. Thucyd. lib. iv. p. 10. Scholiaſt. ὅθεν τὸ νώτιον ὀστοῦδες, ἠάχις καλεῖται, ὡς ἀπὸ τῆς ἠαχίας τῆς πέτρας. This ſeems to favour the editors' rendering *rupes, ſcopulus*. So alſo, ἠαχία ἐστὶ πετρώδης τόπος, περὶ ὃν περιῤῥήγνυται ἡ θάλασσα, καὶ ὁ κλύδων, καὶ ἡ τῆς θαλάσσης ὁρμή. Notæ ad Polybium. Schweighæuſer, vol. v. p. 573. But, notwithſtanding this high authority, I am diſpoſed to think, that, in Arrian at leaſt, it is the ſurf ſimply, and uſed frequently without reference to the rock, or rocky ground, which the ſurf breaks on; for at Kokala the ſurf ran ſo high upon the arrival of the fleet, that the people could not land; on the following day, however, they all got on ſhore, hauled up the veſſels, and formed a camp. If the rocky ſhore

they got through however without damage, and, after a courſe of between ſeven and eight miles, anchored at the mouth of the Arabis.

This river is the weſtern boundary allotted to the Arabies by Arrian. According to d'Anville and de la Rochette it ſtill retains the name of Araba [49], with the additional appellation of Il Mend. Their authority for Araba I know not, but I have no doubt that it is a native term, from the preſervation of it in Cape Arrubah [50], which lies not far to the weſtward; and that Il Mend is a title which, if due, it has acquired from the Perſians. At this point we muſt pauſe, to conſider the courſe of the fleet from the Indus. Three poſitions are clearly eſtabliſhed; Krokala correſponding with Crotchey or Carantchy, Eirus with Cape Monze, and Bibacta with Chilney Iſle, where I fix alſo the Port of Alexander; theſe, with the mouths of the Indus and Arabis, give five fixed points on a coaſt of about eighty miles. The rocks off Sakala [51] are poſſibly without great difficulty reducible to Lieutenant Porter's rock; and Morontobara is ſo characteriſtically diſtinguiſhed, that it cannot be miſtaken if the coaſt ſhould be viſited again. Domæ, Saranga,

ſhore had been the obſtruction, that circumſtance would have exiſted the ſecond day as well as the firſt. But a ſtronger inſtance will occur at Cape Jaſk, which is, by the teſtimony of all our navigators, a low ſandy point: but there, alſo, the term ἐγχάτη is applied; where Mr. d'Anville is ſo miſled, by reading *rupes* or *ſcopulus* in his authors, that to find a rock he recurs to the aſſiſtance of Bombareek, which is at ſeven or eight miles diſtance by his own account.

[49] I rather apprehend that d'Anville has been miſled by the Nubian Geographer, who mentions an Hendmend and Araba, with this addition—Atque hinc intratur in regiones Indorum. But both the Hendmend and Araba of the Nubian Geographer are in Segeſtan, far to the north of our Araba. See Nub. Geog. p. 134.

D'Anville, however, may have other authority, and certainly can interpret the Nubian Geographer better than his corrector.

[50] Arrabah, or Arraback, by Lieutenant Porter.

[51] I have ſome ſuſpicion that Sakala will be found to ſignify either *rock* or *mountain* in ſome of the Oriental languages. The Nile riſes from a Sakala, according to Bruce and Lobo.

and

and Sakala, it will not be thought negligent to leave undefined upon a coaſt that is now almoſt deſolate, and where, if villages [52] have formerly exiſted, they may have been deſtroyed by the incurſions of the Belootches.

The number of ſtadia given by Arrian and Strabo from the Indus to the Arabis is a thouſand; and, what is not very uſual in Greek authors, the particulars anſwer to the total. Theſe reckoned by Mr. d'Anville's ſtadium make ſixty-three miles and an half; but there is an omiſſion of diſtance between Krokala and the Port of Alexander, and another minute one between Saranga and Sakala. The addition of theſe might poſſibly make the eſtimation ſomething ſhort of eighty miles, which accords ſufficiently with the beſt charts I have ſeen. When we reflect that a Macedonian fleet ſpent near forty days in completing a navigation of this length, we may form a judgment of the courage requiſite to undertake and execute the whole voyage. We diſcover, at the ſame time, the difficulties which aroſe from ſetting out before the regular ſeaſon; and while we admire the perſeverance of Nearchus under the diſadvantage of adverſe winds, and the preſſure of famine, we have the ſatisfaction to find that the dates aſſumed are corroborated by the circumſtances of the navigation.

The mouth of the Arabis[53] is placed by Ptolemy in longitude 105°, and latitude 20° 15′, and by Mr. Rennell in longitude 65° 34′ from Greenwich, latitude 25° 26′ and about 44′ weſt from the weſtern mouth of the Indus.

[52] Sakala and Saranga do not appear as places inhabited, by the journal; and Domæ is an iſle. Whether future inquiry may make this Lieutenant Porter's rock, remains for inveſtigation. I am induced to embrace a contrary opinion, both from the diſtances given, and the diſtinction between an iſle and a rock.

[53] Mr. Rennell has placed the Arabis to the eaſtward of Cape Monze in his firſt map, but corrected it in his ſecond.

Arrian

Arrian mentions an iſland[54] at the mouth of the river, which Lieutenant Porter does not notice; but ſays the bar runs out a long way, and is dry in ſome parts at low water. There is ſtill a ſmall town called Sommeany, at the entrance, and labouring under the ſame difficulty for water which is noticed by Arrian, who mentions that they were obliged to go up the country above two miles to find a well[55]. Lieutenant Porter ſays, "every thing is ſcarce, even "water, which is procured by digging a hole five or ſix feet deep, "and as many in diameter, in a place which was formerly a ſwamp; "and if the water oozes, which it ſometimes does not, it ſerves "them that day, and perhaps the next, when it turns quite brackiſh, "owing to the nitrous quality of the earth." We ſhall find the ſame identical circumſtance introduced by Arrian at a future period of the voyage. Minute facts of this nature exemplify the authenticity of the journal better than all the arguments that can be produced againſt Hardouin and Dodwell.

It does not appear from Arrian that the place was inhabited when Nearchus was there, but he calls the harbour large[56] and commodious, and ſays that ſhell-fiſh, with others of various ſorts, were found here in great abundance. Marcian mentions two cities upon the river Arbis, Perſis[57] and Rhaprava on the coaſt between the river and Morontobara; the diſtance between the two latter he ſtates at a

[54] Arrian's iſland is high.

[55] λακκὸν. Perhaps a pool.

[56] μέγας καὶ καλός. The ſame expreſſion as that applied to the Port of Alexander. We may judge of one by the other; for Lieutenant Porter mentions no harbour here but the mouth of the river.

[57] Perſis he writes Perſith, and calls it the capital of Gadroſia, which cannot be in this country. It ſhould ſeem that he had heard of ſuch a city, but did not know where to place it. It is in reality the Pura of Gadroſia mentioned by Arrian and others, and the ſound of which is ſtill preſerved in Phir, Phor, and Phor-ch. Ptolemy has a Parſis with evidently the ſame confuſion, p. 167. Written Ἧασις μητροπόλις for Πάρσις.

thouſand and fifty ſtadia, which by no means agrees with Arrian, and gives reaſon to ſuſpect that he confounded the Port of Women with the Port of Alexander, for his next ſtation is Koiamba, where he fixes the limits of the Pattalene[58], poſſibly the Krokala of Arrian; and laſtly, Rhizan and Rhizana for the termination of the coaſt, as it ſhould appear, at the Indus. In the whole of this account Marcian follows Ptolemy in his liſt of names, but is ſo barren of facts, and ſo vague in his diſtances, that little information can be obtained from him. His whole length of the coaſt amounts to fourteen hundred and fifty ſtadia.

II. OREITÆ. ORITÆ.

ORITÆ. PAGALA. Eighth ſtation. Nov. 9. Thirty-eighth day.

No mention is made of any ſtay at the Arabis, we muſt therefore make the fleet ſail the following day, and proceed twelve miles and an half to Pagala. The courſe is deſcribed as cloſe along the coaſt, and a ſurf at the place where they finiſhed their progreſs, but the anchorage was good. The men were forced, however, to continue on board, and only a few landed to procure water. Such a ſpot as this can be characteriſed only by its diſtance; and our meaſures, which anſwer ſufficiently along the coaſt of the Arabies, will now be leſs capable of accuracy in many particulars, till we reach the gulph of Perſia.

KABANA. Ninth ſtation. Nov. 10. Thirty-ninth day.

They ſailed the next morning, and after a courſe of almoſt nineteen miles reached Kabana in the evening. The place was only an open

[58] Marcian evidently intends to place Koiamba at the mouth of the weſtern channel; but I ſuſpect he has confounded the limits of the Arabies with thoſe of the Pattalene.

and deſert ſhore, on which a violent ſurf broke, which hindered the veſſels from approaching the land. The progreſs of theſe two days ſufficiently indicates that the wind was not yet ſettled at north-eaſt, and in the preſent day's courſe they experienced directly the reverſe; for a ſtrong gale came on from the ſouth-weſt, in which two of the gallies and a tranſport foundered, but the courſe was ſo near the ſhore that the men were ſaved by ſwimming. If we advert to our date here, which is the tenth of November, we find ſuch a coincidence with the turbulence accompanying the change of the monſoon, as cannot fail of exciting our admiration, while we obſerve, at the ſame time, that no inſtance of a ſimilar calamity occurs afterwards in the journal.

KOKALA. Tenth ſtation. Nov. 11. Fortieth day.

They left this deſolate place at midnight, and reached Kokala next morning, after a courſe of about twelve miles. The coaſt here was ſuch, that the veſſels could not be drawn on ſhore, but rode at anchor without the ſurf. The ſuffering of the people was however ſo great, from being confined on board two nights [59], that it was found neceſſary to diſembark them, and form a camp on ſhore, which

[59] In veſſels like thoſe of the Greeks, which afforded neither ſpace for motion, or convenience for reſt, the continuing on board at night was always a calamity. The gallies of Alexander had perhaps a deck; but the Ἡμίολοι are exactly the veſſels of Homer's age, the fore part and waiſt open for the rowers, with a deck raiſed over the hinder part; this in Homer is called ἕρμα, and formed an elevation on which the ſteerſman ſtood. On this deck, or under it, the perſons on board ſometimes ſlept, which the poet calls ſleeping παρὰ πρυμνήσια γίνος. Od. M. 32. For there, perhaps, the cables were coiled; but, when a whole crew was to ſleep on board, this was impoſſible, and the ſuffering was in proportion to the confinement. This makes Ulyſſes complain, that reſtraint on ſhip-board rendered his limbs rigid and unfit for gymnaſtic exerciſe; and the ſame confinement, Captain Bligh ſays, chafed the limbs of his people, againſt which he found no other remedy but wetting their clothes in ſea water.

Nearchus

Nearchus fortified as usual. It is worthy of remark that, during the three days' passage from the Arabis, we hear of no provision being procured except water; neither do the places where they anchored appear villages or inhabited country; if, therefore, the stock of grain which they brought out of the Indus was exhausted, as it probably was in an interval of forty days, we can find no means of supporting life, but such a supply of shell-fish as they might have procured at the Arabis, where we are informed it was in plenty. But it should seem they knew that relief was at hand, for here it was that Leonnatus joined them, who had been left in the country by Alexander, with a particular charge to attend to the preservation of the fleet. He had, after the departure of the main army, fought a battle with the Oritæ and their allies, in which he had defeated them, killing six thousand of the enemy, and losing only fifteen[60] of his own horse, with Apollophanes[61], the new-appointed satrap of Gadrosia. He now joined Nearchus, bringing with him a supply of ten days' provisions, collected by the order of Alexander, and possibly spared out of his own immediate wants. Not that this province ought to be represented as a desert like Gadrosia, but the circumstances of the time, and the resistance of the natives, rendered this supply rather proportionate to the condition of the country, than the wants of Nearchus. The attention of Alexander is still con-

[60] I never feel myself bound to account for these disproportionate numbers. Leonnatus had with him at this time, possibly, a large force of native Asiatics. If a thousand of them had been killed, they would not have been thought worth notice. These fifteen are Macedonians.

[61] In another passage of Arrian, lib. vi. p. 267, this Apollophanes is said to have been deposed from his satrapy, when Alexander was halting in the capital of Gadrosia. See Gronov. p. 338. In the journal, Arrian follows Nearchus; in the history, Ptolemy or Aristobulus.

ſpicuous; and a ſecond unſucceſsful attempt[62] he made in Gadroſia, when he would have hazarded famine himſelf to preſerve his fleet, ought to exculpate him from the charge of uſeleſs vanity in penetrating through that deſert region; a charge which even Nearchus is ſaid to have countenanced.

To ſearch for correſpondent poſitions to theſe three deſert ſtations would be ſuperfluous; for as the next is the river Tomérus[63], at the diſtance of one-and-thirty miles, the two rivers give us the boundary of the four days' courſe, and as they are known points, the meaſures ſpecified are ſufficient to mark three places, which, being uninhabited, can be of no importance. I ſhould have wiſhed to have placed Kokala with preciſion, on account of the tranſactions which took place here; for beſides the ſupply obtained from the army, Nearchus diſcharged ſeveral of his people, who appeared not to have ſufficient ſpirit or fortitude for the enterpriſe, and received others in exchange from Leonnatus: he likewiſe repaired here ſeveral of his veſſels which had ſuffered in the voyage or the ſtorm. This proves that the weather grew more moderate during his continuance at this place, for upon his firſt arrival the ſurf was too high to admit of drawing[64] them on ſhore. If therefore we ſhall, with Rooke[65], allow ten days for the completion of theſe affairs, it brings the account to the twenty-firſt of November; at which period the wind, if it had fixed at north-eaſt, would be off ſhore, and the

[62] See *infra*.

[63] The Tomérus is apparently the river upon which inland Alexander halted, when he invaded the territory of the Oritæ. And probably it paſſes by Haûr, the capital of that tribe, who derive their name from Haûr, Horitæ, Oritæ.

[64] It is not expreſsly ſaid they were drawn aſhore. The author afterwards, at the Tomérus, uſes the term παρελθεῖν.

[65] Rooke finds ten days in his author, I can only find mention of ten days' proviſion; but I think the allowance juſt.

ſurf

ſurf conſequently diminiſhed. This accords exactly with the following day's progreſs, for upon leaving Kokala they ſailed, for the firſt time, upwards of thirty miles, and it is the firſt time Arrian ſpecifies their ſailing with the wind [66] ſettled in their favour.

The ſatisfaction of meeting with a ſupply of proviſions would not be a little heightened by a ſight of their countrymen again, after having experienced unfavourable weather and the danger of famine for ſix weeks; additional confidence alſo would ariſe, not only from the change of the ſeaſon, but from a conſideration of the attention paid to their preſervation by Alexander: the victory of Leonnatus contributed likewiſe to render the Macedonian name reſpectable to the barbarous tribes they were now to viſit. All theſe circumſtances conſidered, with the certainty of finding future ſupport from the army, if poſſible, we may reaſonably conclude that Nearchus embarked again with more confidence than before, and that the ſupply of men he received from Leonnatus came on board with alacrity.

I have looked in vain for authority to give the number of gallies or other veſſels of which the fleet conſiſted. The number of commanders appointed at Nicæa was thirty-three, and by theſe I eſtimate the gallies. There was alſo a greater proportion of half-decked veſſels, and tranſports in abundance. That Nearchus had tranſports as well as gallies appears by the wreck of one on the preceding day; and if we were to allot him all [67] the gallies, it would,

[66] ἀκραῖα. See Hom. Od. Book 421. ἀκραὴ Ζεφύροιο. Schol. ἄκρως πνέοντα πρὸς τὴν χεῖραν ὅτε πλέοι ἔτ' ἔλαττον. Stephan. in voce.

But there is another derivation from κεράννυμι, μὴ κεκραμένον, ἀλλ' ἀκεράσως Ζέφυρον. Purum Zephyrum. And that derivation ſeems peculiarly applicable in this paſſage. It was the north-eaſt monſoon ſettled, and without fluctuation.

[67] Q. Curtius mentions the deſtruction of ſuch veſſels as were ſuperfluous before the departure from the Indus. It is much more probable that, if any were ſuperfluous, they were laid up at Pattala, or the other dock-yards eſtabliſhed in the Pattalene.

perhaps,

perhaps, not appear like exaggeration. The gallies were all of thirty oars; if therefore there were only one man at an oar, we cannot eſtimate leſs than ſixty or ſeventy men to each veſſel, which makes the whole number about two thouſand [68], excluſive of thoſe on board the tranſports. This number does not appear unreaſonable; and conjecture is only allowable where accuracy is not to be obtained. None of the original officers appointed at Nicæa appear in the courſe of the navigation, except Archias and Oneſicritus. Leonnatus joined the main army in Karmania, and muſt have brought the firſt account of Nearchus's progreſs as far as the Tomérus.

TOME'RUS. Eleventh ſtation. Nov. 21. Fiftieth day.

On the twenty-firſt of November [69] the fleet proceeded with a fair wind, and made good a courſe of thirty-one miles to the river Tomérus [70]. The length of the courſe correſponds, as obſerved before, to the change of the ſeaſon. Commodore Robinſon, Lieutenants Porter and MacCluer, Tavernier, and Thevenot, all agree in fixing this change to the middle of November. All the circumſtances of the voyage conſpire to prove the difficulties previous to this period, and the advantages obtained after it was paſt. We are arrived at the laſt ten days of the month; and after the commencement of December there is no fluctuation. Tomérus is deſcribed as a winter torrent, with a lake at its entrance. It appears to anſwer exactly to the ſtream Alexander had found inland very ill ſupplied with water, at which he halted after his purſuit of the Oritæ; and ſeems to come from the ridge of mountains which form the barrier of the whole coaſt to the north; where, in the ſeaſon, rain falls in

[68] See Sequel.

[69] In making the fleet ſail on the tenth day from Kokala, and before, on the twenty-fourth, from the Port of Alexander, I have given two days which I might have added. In all that affects a ſyſtem, it is more honourable to give than to take.

[70] It is written Τόμηρος in the Greek.

abundance,

abundance, though none is ſeen in the low country between them and the ſea. Lieutenant Porter repeatedly mentions the lowneſs [71] of the coaſt, and the appearance of the high country inland. As the ſame circumſtance in regard to the rains occurs in Scindi from Moultan downwards, and in Egypt univerſally, is it not reaſonable to conclude, that the ſame cauſe operates generally in the regions bordering on the tropic, and that mountains are as neceſſary for condenſation, as vapours are for the cauſe of rain?

At the Tomérus, inhabitants were found living on the low ground [72] near the ſea, in cabins, which ſeemed calculated rather to ſuffocate [73] their inhabitants than to protect them from the weather; and yet theſe wretched people were not without courage. Upon ſight of the fleet approaching, they collected in arms on the ſhore, and drew up in order to attack the ſtrangers upon their landing; perhaps they were not unacquainted with ſimilar viſits of the Sanganians. Their arms were ſpears, not headed with iron, but hardened in the fire, nine feet long, and their number about ſix hundred. Nearchus ordered his veſſels to lay their heads towards the ſhore, within the diſtance of bow-ſhot, for the enemy had no miſſile weapons but their ſpears. He likewiſe brought his engines to bear upon them (for ſuch it appears he had on board); and then directed his light-armed troops, with thoſe who were the moſt active and the beſt ſwimmers,

[71] So does the journal of the Houghton Indiaman. A journal curious, becauſe this ſhip kept the coaſt in ſight from Scindi to Gomeroon, and back again; while moſt of the veſſels which come from the eaſtward to the gulph of Perſia ſtretch acroſs the ocean from Guzerat, or the coaſt of Malabar, to Maſcat in Arabia. Dalrymple.

[72] Βάλχια, marſhes or marſh ground.

[73] Καλύβαις πυγμαίαις. Such are the cabins deſcribed by Cook in a thouſand inſtances, into which you muſt enter crawling, and when entered you cannot ſtand erect. A Hottentot village is ſtyled a Kraal. What is the derivation?

to be ready for commencing the attack. On a ſignal given, they were to plunge into the ſea; the firſt man who touched ground was to be the point at which the line was to be formed, and was not to advance till joined by the others, and the file could be ranged three deep. Theſe orders were exactly obeyed; the men threw themſelves out of the ſhips, ſwam forward, and formed themſelves in the water, under cover [74] of the engines. As ſoon as they were in order, they advanced upon the enemy with a ſhout, which was repeated from the ſhips. Little oppoſition was experienced, for the natives, ſtruck with the novelty of the attack, and the glittering of the armour, fled without reſiſtance. Some eſcaped to the mountains, a few were killed, and a conſiderable number made priſoners. They were a ſavage race, ſhaggy [75] on the body as well as the head, and with nails ſo long and of ſuch ſtrength, that they ſerved them as inſtruments to divide their food (which conſiſted indeed almoſt wholly of fiſh), and to ſeparate even wood of the ſofter kind. Whether this circumſtance originated from deſign, or want of implements to pair their nails, did not appear; but if there was occaſion to divide harder ſubſtances, they ſubſtituted ſtones ſharpened inſtead of iron, for iron they had none. Their dreſs conſiſted of the ſkins of beaſts, and ſome of the larger kinds of fiſh [76].

Nearchus ſtaid at the Tomérus ſix days, during which time he drew ſome of his veſſels on ſhore and repaired them; and this

[74] Will not the reader think that I deſcribe the landing of a party, from the Endeavour, in New Zealand, under protection of the ſhip's guns?

[75] Theſe Oritæ are the next tribe to the Arabies or Belootches, whom Tieffenthaler thus deſcribes from Oriental authority: "Cette "nation eſt barbare et féroce, portant les "cheveux longs et ſans ordre, laiſſant croître "la barbe, et reſſemblant à des faunes ou "à des ours." Vol. i. p. 119.

[76] Seal-ſkins poſſibly.

interval being ſpecified, may make the former allowance of ten days at Kokala appear too large. It is, however, a conjecture I have followed rather than formed; and conſidering that they were with their countrymen, had much buſineſs to tranſact, and had fortified a camp, I can hardly ſuppoſe there is an exceſs.

MALANA. CAPE MALAN, or MORAN. Nov. 27. Fifty-ſixth day. Twelfth ſtation.

The fleet left the Tomérus on the ſixth day, and, after a paſſage of nearly nineteen miles, reached Malana in the evening. At Malana, Arrian fixes the boundary of the Oritæ; and the diſtance from the Arabis, the eaſtern limit, to this cape, being accurately ſpecified by Mr. Dalrymple's chart, enables us to compare the ſtadium of Arrian with our modern meaſures preciſely. The opening of the compaſſes gives eighty-five geographical, or nearly an hundred Britiſh miles, and Arrian's total ſixteen hundred[77] ſtadia. This is ſo exact a coincidence with the ſtadium of d'Anville, on a coaſt where there is little indenture, that it may be deemed a ſtrong confirmation of the meaſure aſſumed by that able geographer. It is true that the particulars aſſigned to each day's progreſs give but fifteen hundred ſtadia; but, in the courſe from Pagala to Kabana, the manuſcript of Gronovius reads four hundred and thirty, inſtead of three hundred, which makes the whole ſixteen hundred and thirty; and this Arrian expreſſes by a round number. So ſatisfied am I with the preciſion of my data here, that I have no ſcruple in fixing Pagana, Kabana, and Kokala, by the meaſure of each day's ſail; and as I obſerve Arrah[78], Cudjerah, and Kingalah in Commodore Robinſon's chart,

[77] D'Anville's ſtadium gives ſixteen to a mile Britiſh, with a very ſmall fraction.

[78] There is a chart by Lieutenant Maſcall, who was a volunteer under C. Robinſon, which places theſe three names differently from the Commodore, and in poſitions which I could perhaps adopt; but it varies ſo eſſentially in other points, that Mr. Dalrymple does not eſteem it highly.

I ſhould have been happy to make them correſpond in poſition as well as number; not that theſe obſcure places are important, but becauſe minute coincidences [79] are ſatisfactory in geography. The Oritæ, who inhabit this coaſt, Arrian deſcribes as dreſſed and armed like the Indian tribes; but their cuſtoms, manners, and language mark them as a different race.

The territory of the Oritæ is well defined by Arrian, bounded on the eaſt by the Arabis, on the north by a chain of mountains [80] running inland parallel with the coaſt, and on the weſt by a ridge ſhooting off from the grand chain, and touching the ſea at Malana, or Cape Moran. This cape does not appear to project far or riſe high, and I imagine is connected by high ground with Cape Arrubah [81], about thirty miles to the weſtward. There can be little doubt that the name of Cape Arrabah [82] preſerves the original appellation of the Arabite Belootches of antiquity, for though it is not within the limits aſſigned to that tribe by Arrian, the influence of theſe mountaineers has extended itſelf along the coaſt through the whole province of the Oritæ, and as far as Cape Guadel. We have the fulleſt evidence of this from Lieutenant Porter [83], who ſays

[79] If it ſhould be thought neceſſary to inveſtigate this point, a ſhort table will ſhew all the particulars at one view:

	Stadia.		Miles.
From Arabis to Pagala,	200	—	12½
to Cabana,	300	—	19
or by the MS.	430	—	27
to Kokala,	200	—	12½
to Tomérus,	500	—	31¼
to Malana,	300	—	19
	1500	—	94¼
With the number of MS.	130	—	8
	1630		102¼

[80] "The land from hence (Sommeany "Arabis) runs along extremely low next the "ſea; but the back is very cragged, and con"tinues ſo to Cudjerah." Lieutenant Porter, p. 3.

[81] Arrabah, Arraback.

[82] A plan of the bay, formed by the projection of Cape Arrabah, is given in the chart furniſhed for this work by Mr. Dalrymple; but as Nearchus did not anchor here, we are no farther concerned than to mention it.

[83] P. 6.

expreſsly,

expreſsly, that the coaſt as far as that cape is now called Bloachee (the country of the Bloaches or Belootches), and from that cape to the gulph of Perſia, Brodia. The Belootches, therefore, in carrying their arms weſtward, carried their original name with them, which is ſtill preſerved in Cape Arrabah; and perhaps, if we could inveſtigate the name by which they diſtinguiſh themſelves, we ſhould find, whatever they may be ſtyled by their neighbours, that they ſtill retain ſome relation to this original appellation in their native language.

Mr. d'Anville [84] places Haûr as the modern capital of this province on the river Tomérus, correſponding with the ancient Ora. In this, I conceive, he follows the Nubian Geographer [85], who carries a route from the Indus through Manhabere, a town on the Arabis, and through this Haûr to Firabuz [86] in the Mekran, or Gadroſia. Oræa is mentioned by the author of the Periplus, but with ſo little preciſion, that nothing ſatisfactory can be collected from him. It is evident that this writer had perſonally viſited the coaſts of Arabia and Malabar; but he doubtleſs ſailed with the fleet from Egypt, which at that time croſſed the ocean by the aſſiſtance of the monſoon, and never approached the coaſt of Gadroſia. He

[84] Eclairciſſemens, p. 42. Antiquit. p. 44.

[85] Al. Edriſi. Nub. Geog. Lib. Relax. p. 58.

[86] Et via quæ ducit a Dabil (Debil-Scindi), ad Firabuz tranſit per Manhabare, et inter Manhabare et Firabuz media eſt *urbs quædam parva habitata, Haur appellata.* Urbs autem Firabuz eſt incolis et mercatoribus frequens, pertinetque ad provinciam Mekran. Nub. Geog. p. 58.—If the Nubian drew his information from Arabic ſources, from whence did the Arabians draw? This Arabic work of the twelfth century, if refined of its droſs, would be found to contain much pure metal. Mr. d'Anville *could* have performed this ſervice.

The Dabil of Al Edriſi he places three *ſtations* from the mouth of the Mehran (the Indus), that is ſeventy-five miles, which makes it nearly agree with Pattala. I ſuſpect that Deb-il-Scindi, in its Oriental ſenſe, comprehends the Delta, however afterwards applied to a part of it. Nub. Geog. p. 57.

therefore mentions only the bay of [87] Terabdon [88], which the ancients place between Cape Jaſk and Guadel, and then, with the incidental notice of Oræa, paſſes to the Sinthus [89]. He ſeems to have miſtaken the ſite of this place; for he ſays it is at the mouth of a river, and in the bay, whereas that imaginary bay terminates at Guadel, and this is far to the eaſtward of it. This error, if he really means Oræa for Ora, is excuſable only on account of his not having viſited this coaſt; for whatever he ſaw himſelf, he deſcribes graphically. Ora [90] is laid down by Ptolemy in longitude 102° 20′, latitude 23° 40′; but as little would be gained by the method I have purſued in correcting his error, it is here omitted. The general name of Gadroſia is extended ſometimes by the ancient geographers to the whole coaſt between Karmania and the Indus, as that of Mekran is by the modern Orientals; but the diſtinction ought to be made, of what is deſert and what is habitable. The country of the Arabies and Oritæ appears full of inhabitants, and no notice is taken of the army's experiencing any diſtreſs before Alexander croſſed the mountains into Gadroſia; from that line it appears that the deſert commences, in paſſing which the army encountered greater difficulties than in the whole courſe of the ſervice.

In detailing the coaſt of the Oritæ, I find only three fixed points, the two rivers Arabis and Tomérus, with Cape Malana or Moran. Thevenot [91], in his paſſage from the gulph of Perſia, mentions Cape Malan, but he never came in ſight of it; and his evidence, there-

[87] Perhaps the Paragon Sinus of Ptolemy.

[88] On this ſubject, ſee *infra*.

[89] Sinthus is the name he uſes for the Indus; and this proves his acquaintance with the native appellations Scind and Scindi.

[90] By Mercator's map it does not differ much from the Ora of the Periplus. The confuſion ſeems to be general.

[91] D'Anville Antiquit. p. 44.
Thevenot, Eng. ed. p. 194. Part II.

fore,

fore, amounts to nothing more than proving the exiſtence of the name ſtill in the language of the country; and that Malan is the Moran of Porter cannot be doubted, either from its ſituation or the ſimilarity of ſound. The interchange of the liquids *l* and *r* occurs in numerous inſtances, excluſive of the deception to which the ear is ſubject in receiving foreign ſounds. The three other ſtations on this coaſt I can fix only by the diſtances given; they all appear uninhabited; and when we find names [92] given to obſcure places ſo readily by Arrian, we are led to conclude that he had natives on board, to whom they were familiar.

As Lieutenant Porter mentions three names on this coaſt as well as Arrian, which are Arrah, Kudjerah, and the rocks of Kingalah [93], it is poſſible that Kudjerah may be the Kokala of Arrian; for we are to remember, the Greek language has no ſound correſpondent to our Engliſh *ch*, and Cochela is not very diſtant in ſound from Gudjerah. Reſemblance of this kind, where diſtances or local ſituation agree, is ſtrong preſumptive proof. Kabana is ſuppoſed to be Kingalah by de la Rochette.

The extent of this coaſt, given by Strabo, is eighteen hundred ſtadia; and if he drew from the original journal as well as Arrian, it is extraordinary that they ſhould differ to the amount of an hundred and ſeventy ſtadia in ſo ſmall a number: but this is perhaps only an additional inſtance of the little dependance upon all numerals in Greek manuſcripts, rather than a proof of diſagreement between the authors. Arrian's ſtadia, as corrected by the manu-

[92] Porter's are three names merely, and this is an Oriental practice; for thus Niebuhr ſpeaks of the coaſt between Suez and Jidda. On appelloit ancrages tous les endroits où notre petit vaiſſeau pouvoit être à l'ancre. Voyage, tom. i. 230. Amſterd. Ed.

[93] Hinglah. Maſcall.

ſcript[94] of Gronovius, produce nearly an hundred and two miles; Strabo's, an hundred and thirteen; and both accord ſo nearly with the chart of Commodore Robinſon, which gives ſomewhat more than an hundred miles, that nautical menſuration, without the aſſiſtance of inſtruments, can hardly be reduced to greater conformity.

Here I ſhould have cloſed the account of the Oritæ, but at Malana we find a circumſtance recorded by Arrian which demands no ſmall degree of attention; for here it is that he introduces the mention of a phænomenon, which, however familiar to the navigators of the preſent day, was, in his own age, a matter of no ſmall curioſity. The ſun, he tells us, was ſeen by Nearchus in the meridian to the north, and the ſhadows fell to the ſouth. I ſhall tranſlate the whole paſſage, before I enter upon the diſcuſſion of a ſubject which has expoſed my author to much reprehenſion.

" As they ſailed along the coaſt of India, that is, the country of " the Arabitæ and Oritæ [for the Ichthyophagi are not accounted an " Indian tribe], Nearchus ſays, that the ſhadows had not the ſame " effect as in thoſe parts of the earth with which they were ac- " quainted, for when they ſtood out to ſea a good way to the ſouth- " ward, the ſun[95] was either vertical at noon and no ſhadow was " to be ſeen, or ſo far to the north that the ſhadow fell to the ſouth. " The northern conſtellations, which are always above the horizon, " ſet almoſt as ſoon as they roſe; and others which they were uſed " to contemplate, were either cloſe to the horizon or not viſible at " all. In this Nearchus appears to aſſert nothing improbable; for at

[94] This MS. Gronovius found at Florence, in the Grand Duke's Collection. See Præfat. ad Lect. It evidently contains readings of the firſt importance; and the reconciliation of numerals is no ſmall proof of its ſuperiority. It is poſſibly the MS. brought by Auriſpa from Conſtantinople in 1403. See Roſcoe's Life of Lorenzo, p. 30.

[95] I take ſome liberty to make this conſiſtent.

" Syene

" Syene in Egypt, when the ſun reaches the ſummer tropic, they " ſhew a well, in which at noon there is no ſhadow; and as the ſame " circumſtance occurs in Meroe, it is probable that in India alſo, which " lies towards the ſouth, the ſhadow ſhould be ſubject to the ſame " law, and more particularly in the Indian ocean, which extends " ſtill farther to the ſouthward."

In this account there is apparently little to perplex; but when we conſider, that at Malana Nearchus was in north latitude 25° 16′, where theſe circumſtances could not occur, it is not very eaſy to diſcover the reaſon for introducing them at a place not within the limit of the tropic. We muſt recollect alſo that we are now arrived at the latter end of November, when the ſun was to the ſouthward of the equator; and therefore, whatever licence we may aſſume in rendering the text, when it aſſerts that they ſtood out far to the ſouthward, we may be aſſured that no Greek veſſel ever ſtretched ſo far from the coaſt as to verify this phænomenon in the manner ſpecified by the hiſtorian.

Neither Alexander himſelf, or any detachment from his army, were ever farther to the ſouth than the mouth of the eaſtern branch of the Indus; and there, at the ſummer ſolſtice, the ſun might be vertical: but, from all we can collect, Alexander did not reach that point till the latter end of July, when the ſun was again on his journey to the ſouth; neither is it perfectly aſcertained that the mouth of the Nulla [96] Sunkra is within the tropic: Mr. Rennell's laſt map and Mr. de la Rochette, it is true, bring it within that

[96] See Goſſelin Geog. des Grecs, p. 32; within the tropic. Plin. lib. ii. c. 75. who mentions that Oneſicritus places Pattala

line;

line; but till it ſhall be determined by obſervation[97] there is ſtill room to doubt.

If this phænomenon, however, was to be recorded, it is extraordinary that it ſhould not have found its place at the point fartheſt ſouthward which the Macedonians ever reached; and that it ſhould be reſerved for Malana, when the fleet was nearly two degrees to the north of the tropic, and the ſun ſouthward of the equator. I would ſave the credit of Arrian, if it were allowable, by ſuppoſing that he ſpoke for Nearchus in this paſſage generally, rather as a circumſtance known than experienced; but truth compels me to confeſs, that to my apprehenſion his language is too expreſs to admit of general interpretation: it is Nearchus ſpeaking of what he had ſeen[98] himſelf, and I cannot acquit Arrian without making Nearchus ſubject to the imputation.

Nearchus, it is true, is enrolled by Strabo in the ſame liſt with Oneſicritus, Megaſthenes, and other writers upon India, as indulging too much in narrations which are fabulous; but we have at this day far better means of comparing the accounts of theſe authors with the actual ſtate of the country than Strabo had, and I muſt acknowledge that I have found Nearchus a moſt faithful and unerring guide. If I cannot excuſe him in the preſent inſtance, I can join him in his error with companions ſo illuſtrious, that I hope the reader will pardon me for entering upon a digreſſion in which the knowledge of the ancients in geography is materially concerned.

[97] Mr. Dalrymple's chart, by C. Prittie, places Pandrummee in latitude 23° 13′; and in his chart of Scindi, latitude 23°.

If, therefore, Pandrummee is the eaſtern mouth, it is conſequently within the tropic. I only mean to ſay it is not fixed by obſervation.

[98] ὤφθη αὐτοῖσι.

The

The increaſing length of ſummer days and winter nights, in proportion to the approach towards the pole, was known as early as the age of Homer, and the correſponding phænomenon of the ſun caſting no ſhadow at the ſummer tropic[59] had evidently been obſerved by the Egyptians previous to all the aſtronomy of the Greeks with which we are acquainted. The ſpherical figure of the earth alſo, we are now told, was no ſecret to the Indians, Chaldeans, Egyptians, and Phœnicians; or if their diſcoveries, as antecedent to hiſtory, are the leſs regarded, we know from facts that Thales was acquainted with this important truth. If ſcience had proceeded regularly upon theſe principles, the properties of a ſphere might have led men to contemplate the proportion of theſe phænomena as well as the phænomena themſelves, for they wanted neither knowledge or induſtry to obſerve them; but they failed in the reſult and combination of their obſervations. Thus it happened, that although Thales was acquainted with the ſpherical figure of the earth, and Anaximander had deſcribed the known world on a globe, yet it was not till three hundred and fifty years after Thales that Eratoſthenes drew a line parallel to the equator, which ſuggeſted the doctrine of latitudes to the ſchool of Alexandria, and finally enabled Ptolemy to apply both longitude and latitude univerſally to the ſcience.

Arrian is contemporary with Ptolemy, but ſo little was he acquainted with this great diſcovery, or rather the application of it, that he has in no one inſtance made uſe of the term. It is evident, however, that he had a knowledge of the phænomenon produced by

[59] See Bruce on the Obeliſks, Norden, Pocock, and Blair's excellent treatiſe on the Riſe of Geography, who mentions that the well at Syene was made for the uſe of Eratoſthenes: but there is much reaſon to give it a higher antiquity.

the ſun in the tropic, from his mention of Syene in this paſſage; and he could not be ignorant that ſouthward of Syene the ſun might be ſeen [100] to the north; for he has in another paſſage noticed the ſolſtitial rains in Ethiopia (Nubia or Abyſſinia), as the true cauſe of the inundation of the Nile; and whoever verified this fact, which was known to Strabo [101] as well as Arrian, muſt have obſerved the ſhadow falling to the ſouth. Arrian diſcovers his knowledge of all theſe circumſtances in reaſoning upon this extract from Nearchus, and Nearchus ſeems to have been as cautious in giving this fact as Arrian is in repeating it, when he ſays it took place, not actually upon the coaſt, but at ſome diſtance out at ſea. So likewiſe Arrian does not aſſert that Malana lies upon the ſame parallel with Syene, but carries the parallel out into the ocean. As all this was really true, if the fleet had been at Malana during the ſummer ſolſtice, neither of theſe authors is culpable for any thing more than for aſſerting that as ſeen, which only might have been ſeen at another ſeaſon; and if it were not for the poſitive aſſertion (ὤφθη αὐτοῖσι), *they ſaw it themſelves.* The whole paſſage might be received generally or hypothetically, and the credit of both be eſtabliſhed.

But if they cannot be defended, it will at leaſt be ſome palliation of their offence, and a matter of no ſmall curioſity, to ſhew how generally the vanity which gave riſe to this error, exiſted in the writings of the ancients. Great travellers and great conquerors never thought their accounts or their progreſs ſufficiently magnificent, unleſs they were carried to the boundaries of nature. Alex-

[100] As he ſays himſelf in Mercé. Mercé, according to Bruce, is Abyſſinia.

[101] Strab. lib. ii. p. 98.

ander

ander is conveyed by his miraculous[102] hiſtorians to thoſe regions on the north, where perpetual cold and darkneſs reign; on the eaſt and ſouth, to the utmoſt limits that the heat allows to be inhabited. But without recurring to ſuch admirers of the hyperbole as Q. Curtius, we muſt reflect that Orpheus[103] carries his Argonauts to the Cimmerians, who never ſee the ſun. And where do they dwell?—that is no eaſy matter to diſcover: but their country is excluded from the ſolar rays by the Alps, the Rhipæan mountains, and the rock of Gibraltar[104]. Homer claims the ſame privilege for Ulyſſes, for he conveys him to a region which enjoys the polar day[105], which his commentator aſſures us muſt be the country of the Cimmerians, and yet the poet informs us that this was in the territory of the Læſtrygons, and Læſtrygonia is in Italy, juſt three days ſail from Circe and the bay of Naples. Cæſar[106] ſpeaks with the caution of an hiſtorian when he ſays there was no night[107] in the extremity of Britain, or the iſlands[108] lying north of Mona. Such, he ſays, was the information he received, but he had no opportunity of aſcertaining it; he obſerved himſelf only, that in Britain the ſummer days

[102] Q. Curt. lib. ix. c. 9. Ne naturam quidem longiùs poſſe procedere. Brevi incognita niſi immortalibus viſuros.

The whole of this ſubject is worthy of diſcuſſion at large, if I could have ventured to indulge in it.

[103] Orph. Argonaut. l. 1116.

[104] The reader may think I indulge a vein of ridicule, but it is ſerious truth. Orph. Argonaut.

ἔπειτα δὲ Κιμμερίοισι
Νῆα Θοὴν ἐπάγοντες ἱκάνομεν· οἱ ῥά τε μόνοι
Αἴγλης ἄμμοροί εἰσι πυριβρόμου ἠελίοιο·
Ἐν μὲν γὰρ Ῥίπαιον ὄρος, καὶ ΚΑΛΠΙΟΣ αὐχὴν
Ἀντολίας εἴργουσ', ἐπικέκλιται δὲ πελώρη
Ἄσσον ἐπισκιάουσα μεσημβρινὸν ἠέρα Φλέγρη.
Δείελον αὖ κρύπτουσι φάος τανυηκέες Ἄλπεις
Κείνοισι μερόπεσσιν, ἀχλὺς δ' ἐπικέκλιται αἰεὶ. 1125.

The uniting of the Rhipæan mountain, Calpe, and the Alps is given up even by the commentator.

[105] Εγγὺς γὰρ νυκτός τε καὶ ἤματός εἰσι κέλευθοι. Od. K. 86.

[106] Bel. Gal. lib. v. c. 13.

[107] If, by no night, he intends to ſay that it is not abſolutely dark, he is not guilty of an error.

[108] He ſeems to mean the Hebrides.

were

were longer than on the continent. Pytheas [109] of Marſeilles went farther north himſelf, he was at Thule, or Iceland; and here, he ſays, the day and night were each of ſix months continuance; a fact which is true only immediately at the pole, whereas Iceland unfortunately is not within the arctic circle.

I have not introduced theſe ſeveral accounts for the purpoſe of exhibiting them in a ludicrous view, but to ſhew that travellers, poets, and hiſtorians, have all conſpired in placing a true phænomenon in a falſe latitude. They had all heard that this took place ſomewhere in the north, and they have all fixed it at the extremity of their own knowledge, or the knowledge of the age they lived in. If, therefore, I cannot acquit Arrian or Nearchus of a ſimilar error, I have at leaſt, according to my promiſe, given them ſuch companions in their error as to reconcile the reader, in ſome degree, to a vanity which ſeems to have pervaded ſo great a proportion of our ancient authors, and which may be thought pardonable at leaſt, though by no means worthy of imitation. I truſt that the general veracity of Arrian in his detail of facts will not be impeached by this one lapſe, and to prevent ſuch an imputation is the only excuſe I have to plead for this digreſſion.—I now return to conduct Nearchus along the coaſt of the Ichthyophagi; a part of his voyage where he experienced every calamity but adverſe winds, and where no commentator has ventured to trace his progreſs.

[109] Pytheas is reprobated as a fabuliſt by Strabo, i. 64. ii. 104.; but he has found favour with his countrymen; for Huet thinks him not quite a dealer in fiction, and Goſſelin diſcovers that, though he ſpeaks little truth, he exhibits a knowledge drawn from purer ſources, and a ſpecimen of that geography which, though antecedent to all hiſtory, was better than that of the Greeks. This is a ſyſtem of Goſſelin's, and by no means the valuable part of his work. Geog. des Grecs, p. 45, et ſeq.

Pytheas ſays, the tropic of Cancer becomes (or ſtands in lieu of) the arctic circle; which Goſſelin explains, by ſuppoſing that he means the tropic of Cancer is always viſible above the horizon. Strab. 114. Goſ. 48.

III. ICTHYOPHAGI.

THIS deſolate coaſt, extending from Malán to Cape Jaſk, is not leſs than four hundred and fifty miles in a right line, and nearly ſix hundred and twenty-five miles, or ten thouſand [110] ſtadia, by the courſe of the fleet. It is not meant, however, to infer that an hundred and ſeventy-five miles, the difference between theſe two numbers, is wholly imputable to the courſe of the fleet along the ſhore; for the coaſt lies generally ſtraight, and the indenture of the bays is not deep. We may ſuppoſe that the preſſure of famine augmented the efforts of the navigators; while the acquiſition of a pilot, and the advantage of the prevailing wind, contributed to lengthen each day's courſe. We ſhall find, therefore, that their progreſs was now ſometimes a thouſand ſtadia, or upwards of ſixty miles a-day; and as proofs will ariſe, that they did not always adhere ſo cloſely to the ſhore as in the other parts of their voyage, it may be preſumed their means of judging diſtances were diminiſhed, which cauſed part of the error in their reckoning; and which error naturally tended to increaſe their eſtimation of the meaſure.

It is neceſſary to premiſe theſe circumſtances, becauſe the ſtadium of d'Anville is leſs applicable to this coaſt, exactly in proportion to the difference between four hundred and fifty and ſix hundred and twenty-five; and as no ſuch variation occurs in the former part of the voyage, and none ſo great will occur in the gulph of Perſia, it becomes more requiſite to point out the cauſes of variation here; the

[110] Strabo ſays ſeven thouſand four hundred, p. 720. This will be examined more correctly hereafter.

principal

principal of which are, the diſtreſſes that cauſed diſtances to appear longer, at the ſame time that they engaged the mind too much to allow of accurate calculation.

A coaſt which furniſhed nothing but fiſh, which afforded no characteriſtic diſtinction to its inhabitants but the name of Fiſh-eaters, preſented no conſoling ideas to a body of Greeks, with whom the want of bread was always conſidered as famine [111]: and though turtle is mentioned as found on this coaſt by Arrian, and a tribe called Turtle-eaters by Marcian [112] of Heraclea, it is not to be ſuppoſed, that becauſe turtle affords a delicious repaſt in modern eſtimation, that it was by any means acceptable to a Grecian palate. I rather ſuſpect that Ichthyophagi and Chelonophagi ſtand in the Greek text as appellations bordering on contempt, or at leaſt as intimations of miſery; and though I can find no expreſs teſtimony of antipathy conceived by the Greeks againſt this ſpecies of food, neither can I find any evidence that they made uſe of it, as is noticed in regard to the ſhell-fiſh found in the Port of Alexander and the river Arabis. We ſhall have reaſon to obſerve as we proceed, that fiſh is almoſt the only means of ſupporting life, or furniſhing the conveniences of life, ſuch as they are, to the natives; that their houſes are conſtructed with the larger bones [113] of fiſh, and thatched with the refuſe; that their garments are of fiſh-ſkins; that their very

[111] Σιτος, the general term, means bread, as *bread* with us is the general term for food. There are many inſtances of the Greeks conſidering the want of bread as famine; and a very particular one in Roman hiſtory. At Avaricum Cæſar's troops had plenty of meat but no bread, and this was conſidered by him as a ſufficient reaſon to offer to his army a propoſal for quitting the ſiege.

[112] Hudſon. Geog. Min. Mar. Herac. p. 22.

[113] The whale, which we ſhall hereafter find frequented this coaſt, might ſupply ample materials, as we ſee by the jaw ſufficiently common in England. Shells, or rather large conchs, are mentioned, lib. vi. p. 262, as forming part of theſe houſes, perhaps the roof.

bread

bread is a fiſhy ſubſtance pounded and preſerved; and that even the few cattle they have, feed on fiſh. The ſame obſervations occur to modern travellers who have viſited this coaſt. Thevenot, Tavernier, and Niebhur, ſeem to comprehend the coaſt of Perſis and Karmania as under the ſame circumſtances with that of the Ichthyophagi; and Edward Barboſa, who was pilot on board one of the Portugueſe fleets which firſt viſited this coaſt about the year one thouſand five hundred and nineteen, has the following remarkable paſſage: "They have few ports, little corn or cattle; their coun-" try is a low plain and deſert; their chief ſupport is fiſh, of " which they take ſome of a prodigious ſize; theſe they ſalt, " partly for their own uſe and partly for exportation; they eat " their fiſh dry, and give dried fiſh likewiſe to their horſes and " other cattle [114]." So invariable has been the miſery of this coaſt for two thouſand years! and ſo poſitive are the aſſertions of modern voyagers in correſpondence with the teſtimony of Arrian!

The modern name of Mekran appears to be the Perſian or Indian appellation for the whole of this coaſt from the Indus to Kerman or Karmania, ſo called in the firſt inſtance from its commencement at the Indus or Mehran, and augmented afterwards by the title of Kutch Mekran, from Kidge or Kutch the capital; diſtinguiſhed, however, by the more modern diviſion of Bloachee and Brodia, the limit of which is at Guadel: but in the time of Alexander the title of Ichthyophagi was confined to the inhabitants of the coaſt, while the country within land, from the confines of the Oritæ to Karmania, was ſtyled Gadroſia, almoſt equally deſolate, and as incapable of ſupporting an army as the coaſt.

[114] Ramuſio, vol. i. p. 295.

This

This country Alexander had evidently entered before the fleet had reached Kokala, as Leonnatus joined Nearchus at that ſtation, having been left behind for that purpoſe when the main army had advanced into Gadroſia. The difficulties this army experienced are foreign to the preſent purpoſe, but the attention Alexander paid to the preſervation of the fleet is connected with the voyage; and a reference to his conduct will tend more effectually to exculpate him from the charge of vanity imputed to him in this part of his expedition, than any other arguments which can be produced.

It is mentioned [115] expreſsly, that when Alexander entered this province it was his intention to proceed along the coaſt, to examine what harbours it afforded, to ſink wells, and provide whatever elſe might afford accommodation for the fleet; but he ſoon found that, from the nature of the country, this was impracticable. He ſent down Thoas, however, with a ſmall body of horſe to make obſervations, which amounted to no more than a confirmation of the miſery of the few inhabitants to be found there; and that even water, which was ſcarce [116], was brackiſh alſo, and obtained only by opening holes in the ſand or beach. The army, therefore, was obliged to advance inland; and here the length of the marches to reach water harraſſed the men and killed the beaſts. It happened, however

[115] Arrian, lib. vi. 262. Strabo, lib. xv. 722.

[116] When we find in Otter, tom. i. p. 409, no leſs than five rivers ſpecified in this province, we may be led to think, that more is ſaid of the want of water than is true; but I ſhall ſhew hereafter, (ſee article Cyiza, river Hydriakus,) that two at leaſt of theſe rivers were ſalt or brackiſh, and from the nature of the ſoil all along the coaſt, deſcribed both by ancients and moderns as ſalt or nitrous, it may be preſumed that all the waters in the country partook of this quality. Such Arrian repreſents them here, and ſuch Lieutenant Porter ſays they are at Sommeany. If the Sommeany river itſelf were not brackiſh, the natives would not have cauſe to open the ſands for better, and the water in theſe openings ceaſes to riſe freſh the ſecond or third day.

that at one ſtation he met with a ſupply of corn, and this, notwithſtanding his own wants, he deſtined for the ſupport of the fleet, fixing his ſeal upon it, and ordering it to be conveyed down to the coaſt; but diſtreſs prevailed over the fear of puniſhment; the eſcort broke the ſeal, and ſupported their own lives by the ſupply entruſted to their charge; neither did Alexander, knowing their ſufferings, think this a time to puniſh their offence. He made a ſecond attempt by ſending down Cretheus with another ſupply of no great importance, and a third when he diſpatched Telephus with a ſmall proportion of corn ready ground, having previouſly directed the natives in the upper provinces to collect dates, ſheep, or even ſalt proviſions, if by any means the preſervation of the fleet could be effected. Sixty days [117] did the army ſtruggle with their diſtreſſes before they reached Pura [118], the capital of this deſert; and during one part of their progreſs ſo imminent was the danger, from the failure of water and the ignorance of the guides, that had not Alexander put himſelf at the head of five horſe, (all that were capable of ſervice,) and puſhed down to the ſea-ſide, where he found water by opening the ſands, it is confidently aſſerted that the whole army muſt have periſhed. They proceeded along the coaſt for ſeven days, ſupplied by the ſame means, till the guides recovered the track, and conducted them ſafe to Poora [119].

There is ſomething in this account which induces us to think that one diſtreſs, the want of water, would have been leſs experienced on the coaſt than within land; and during theſe ſeven days it is

[117] Strabo. Arrian ſays expreſsly, from the time they left Ora.

[118] I ſhall write Poora, which is the Greek pronunciation.

[119] The preſent capital of Mekran is Kidge. Cheref-eddin, vol. ii. p. 417. French edition. Poora, which is the Poreg or Phoreg of the Nubian Geographer, ſeems however ſtill a place of ſome relative importance.

probable that Alexander, ſeeing nothing of his fleet, deſpaired of its ſafety; for he could not know that Nearchus had been detained near a month by the monſoon, nor properly calculate the reaſon of his delay. It is certain that Nearchus found water in the ſame manner as the king; both were directed by the natives, and ſeveral voyagers acquaint us, that wherever palm-trees [120] grow, however arid the ſoil, there is always water to be found, by opening the ground to the depth of from ten to fifteen feet.

I cannot account for the ſixty days attributed to this march through Gadroſia; the diſtance through a ſandy deſert could not be much longer than by ſea; and how four hundred and eighty miles [121] ſhould require ſuch a length of time ſeems a conſiderable difficulty. Arrian mentions that the marches were protracted to the deſtruction of numbers; and Strabo ſpecifies that they were two hundred [122], four hundred, and even ſix hundred ſtadia, that is, ſometimes as high as thirty-ſeven miles a-day; a length incredible; and the more the length is increaſed, the leſs it agrees with the number of the days.

As no ſolution of theſe difficulties occurs, I ſhall only ſtate the poſition of the army at Poora and the fleet at Malana, according to the dates given by the hiſtorians; and this ſeems neceſſary, as we

[120] The palm grows in Egypt; and when the Egyptians had poiſoned the water in the Kaliſh of Alexandria, Cæſar opened wells on the coaſt.

[121] Four hundred and eighty miles give eight miles a-day; a march not too ſhort in an impracticable country, if it can be made to accord with the other forced marches; and perhaps we ought to compenſate the particular length of ſome days march, with the general difficulties which rendered others ſhort.

[122] There is ſomething unaccountable in Strabo's ſtadia, for if they are thoſe of d'Anville, two hundred are only twelve miles and an half; no very extraordinary day's march: and if they are the Olympian ſtadia, ſix hundred make ſeventy-five miles; a march which is impoſſible.

	Miles Engliſh.	Miles Roman.
200 ſtadia of d'Anville,	12½	Olympian, 25
400 ditto,	—— 25	Ditto, 50
600 ditto,	—— 37½	Ditto, 75

ſhall

ſhall have no farther reference to Alexander till Nearchus found him in Karmania. He had left Pattala a month or ſix weeks before Nearchus, that is, ſome time in Auguſt [123]; what time he continued in the country of the Arabies and Oritæ does not appear, but from a circumſtance which occurred in Gadroſia, and the ſixty days employed in that province, we ſhall bring him to Poora [124] in the latter end of November; and as Nearchus reached Malana on the twenty-ſeventh of November, we may conjecture that the ſeven days' march of Alexander along the coaſt of the Ichthyophagi, at the weſtern extremity, took place during the very time Nearchus lay at Malana, or had juſt commenced his courſe at the eaſtern limit of the ſame tribe. I have entered into theſe particulars in order to connect the motions of the fleet and army, and have no ſmall pleaſure in finding that they correſpond with each other. Another object was to prove, in oppoſition to all the hiſtorians, that the penetration through the deſert was not a mere idle ſuggeſtion of vanity, but part of that great deſign which Alexander had conceived of opening a communication by ſea with India: the three attempts which he made in the midſt of his own diſtreſs to aſſiſt the fleet, eſtabliſh this point as the firſt object of his mind; and the loſs which he ſuffered fell perhaps chiefly upon the Aſiatics, who now compoſed the bulk of his army, for the Macedonians do not appear to have been weakened, either upon their arrival in Karmania, or from the tranſactions in which they were afterwards engaged.

[123] See Anamis, *infra*.

[124] Otter, tom. i. 408, mentions Kié, or Guié, as the capital of Mekran; but as he makes Kié and Kiz, or Kidsj, two diſtinct places, and diſtinct they really are, it is highly probable that he is miſtaken, as he diſagrees both with the Nubian Geographer and Cheref-eddin. It ſhould ſeem that Phoreh is the ancient, and Kidsj the modern capital.

ICTHYOPHAGI.

BAGASIRA. Nov. 28. Fifty-ſeventh day. Thirteenth ſtation.

We left Nearchus at Malana on the twenty-ſeventh of November, where he ſtaid only that day, and, weighing at night, proceeded thirty-ſeven miles to Bagaſira. There was a good harbour here, and a village called Paſira [125], about four miles up the country. The ſite of this ſtation anſwers to a creek in Porter's chart to the eaſtward of Cape Arraba, and which, in Maſcall's chart, obtains the name of Jerkumutty [126], but the diſtance is only fifteen miles. We cannot, however, well be miſtaken, becauſe the next day's ſail is round Cape Arraba; and as no diſtance is ſpecified for the doubling of that promontory, the thirty-ſeven miles applied to the whole are ſufficiently correſpondent: the text does not juſtify this allotment, but as the Cape is a fixed point, there is little danger of an error.

Upon the mention of Ba-gaſira, I muſt be permitted to notice, that the term Gaſira indicates an Arabian navigation on this coaſt previous to the age of Alexander; for it is neither more or leſs than Geſira, ſignifying in Arabic an iſland or peninſula confeſſedly, and, as I apprehend, a cape likewiſe. It is remarkable that, on the coaſt of the Ichthyophagi, this term occurs twice, in Ba-Gaſira the firſt ſtation but one, and Da-Gaſira the laſt but one. It occurs, likewiſe, in the Periplus of the Erythræan ſea, with the tranſpoſition of a ſyllable, where Ba-rygaſa is either Guzerat [127], or the gulph of Cambay, and Ba-rygaſa corrected is exactly the Ba-Gaſira applied by Arrian to the bay eaſt of Arraba. I appeal, then,

[125] De la Rochette places Paſira to the weſtward of Cape Arraba inſtead of the eaſtward; and his whole diſtance from the Tomérus to the Cape is reduced to nothing. Has he not miſtaken the Jerkumutty creek for the Tomérus? Paſira is poſſibly a corruption of Bagaſira.

[126] This chart of Maſcall's is not from his own obſervation, and therefore far from correct. Jerkumutty is ill applied; it belongs to Churmut, the Calametta of the Portugueſe, the Kalama of Arrian. From the firſt view of the two words, who would conceive that Jerkumutty and Kalama were related?

[127] The fluctuation or corruptions of this word are endleſs; for we find Gaſira, Geſira, Geriza, Geziret, Dsjeſiret, Guzerat, &c. &c.

to

to the profeſſors of Oriental literature for the interpretation of Ba, for it is a component part of many names on this coaſt, as Ba-lomus, Bar-na, Ba-dara, A-la-ba-geion, Ba-geia, Ba-dis; and, wherever it is employed, I can point out a gulph or bay, as it is uſed in Ba-rygaza for the gulph of Cambay, and in this paſſage of Arrian, for the bay formed by Cape Arraba. I had looked for an oppoſition in Ba and Da, ſuſpecting that Da, Dah, or Dagh [128], ſignified the *head* of a cape, and Ba the *neck* or *falling-in of the land*, in contradiſtinction; but my friend Dr. Ruſſell, whom I conſulted, gave me no hope of finding any ſuch primitives in Arabic, where they ought to be looked for. I have only to add, that as a bay [129] occurs almoſt to a certainty in every inſtance where Ba is applied as an adjunct, it is an extraordinary coincidence of ſound with our native term; and I look with no little curioſity to an etymology of it, if it ſhould be diſcovered in Arabic, Perſic, Pehlvi, Shanſkreet, or any native dialect of the coaſt.

The fleet weighed from Ba-gaſira early in the morning, and ſtretched out round the cape, which projected far into the ſea, and appeared high and bold. After doubling the head, they were obliged to ride at anchor without landing the men, as the ſurf ran high upon the ſhore [130]: ſome of the people, however, were with difficulty landed, in order to procure water; this was effected by opening pits upon the beach, but the quantity was ſmall and bad. Though Arrian has aſſigned no name to this cape, there is no poſſibility of a miſtake in calling it Cape Arraba, a name which ſtill preſerves the title of Arabies, given to the Belootches by Arrian, whoſe

CAPE ARRUBAH. ARRABA. ARRUBAK. Nov. 29. Fifty-eighth day. Fourteenth ſtation.

[128] Dagh, in Turkiſh, is a mountain; and Dahr, in Perſic, a head officer: if derived from any root ſignifying a *head* it would anſwer in this inſtance; but that is not allowed by Mr. Jones or Dr. Ruſſell.

[129] Our word Bay, is from Beagan to curve or bend. Junius in voce.

[130] ἠπείρου. Petroſum littus, according to the tranſlators.

influence,

influence, as I have before obſerved, reaches much farther weſtward at preſent than this promontory. The iſland Karnine, which Arrian places two day's ſail from hence, correſponds ſo preciſely with Aſhtola [131], the only iſland worthy of notice on the coaſt, that there can be no error in aſſuming both names for the ſame ſpot; and if the iſland is right, the cape cannot he miſplaced.

KOLTA. Nov. 30. Fifty-ninth day. Fifteenth ſtation.

The next day's ſail was only twelve miles and an half to Kolta; and that of the day following ſomething more than thirty-ſeven to Kalama [132].

KALAMA. Dec. 1. Sixtieth day. Sixteenth ſtation.

I have before taken notice that the meaſures on this coaſt tend almoſt regularly to an exceſs, and the numbers ſpecified between Malana and Kalama prove this. Fourteen hundred ſtadia produce eighty-ſeven miles; and if I had added a diſtance for doubling the cape, the diſproportion would have been ſtill greater. In eighty-ſeven miles there is an exceſs of twenty-two, for Commodore Robinſon's ſurvey gives only ſixty-five; and in my account there can be no miſtake, unleſs I have been too deſirous to make Malana and Morán the ſame, which is hardly poſſible, as the previous meaſures all correſpond. We muſt impute, therefore, this exceſs either to the circuitous courſe round the cape, which ſeems more than requiſite, conſidering the wind which blew; or to the error of Nearchus's reckoning. I incline to the latter, becauſe I conſider the cape and Kalama as fixed points; the former from the circumſtances of the navigation, the latter by the mention of an iſland lying off ſhore at this point. For I have been enabled to diſcover the poſition of

[131] Ptolemy has an iſland in this ſea called Aſthæa, placed by his longitude indeed oppoſite to the river Arabis; but as there is no conſpicuous iſland on the coaſt except Aſhtola, there is every reaſon to ſuppoſe, that, however miſplaced, Aſthæa has a relation to Aſhtola.

[132] Kalama. Kalyba. Gron. MS.

Kalama by extraordinary good fortune, and find that the Churmut river of Robinſon is ſynonymous: if this is capable of proof, what latitude ought not to be given to conjectural reconciliations? What credit is not due to Mr. Dalrymple, who recommends the preſervation of all names as they ſtand in authors who have viſited the ſpot? In a Portugueſe manuſcript of Reſſende, in the Britiſh Muſeum, we have a map of this coaſt, in which Paſſaum (Poſſem) is laid down very well, and the next ſtation on the eaſt, Rio de Kalameta. Kalameta [Kaulmet] is evidently the medium between the Churmut of Robinſon and the Kalama of Arrian. I conſider this ſtation, therefore, as fixed with the utmoſt preciſion; and the iſland Aſhtola, or Karnine, mentioned by Arrian as lying off this place, completes the evidence.

That Karnine[133] is the modern Aſhtola, there can be no doubt; for though the journal places it about ſeven miles from the coaſt, while it is in reality double that diſtance, this ought not to appear a difficulty, for Nearchus did not viſit it. It is viſible[134] from Cape Arraba, and perhaps during the whole paſſage to Kalama; but, in judging diſtances by the eye, poſſibly Nearchus was not ſo ſkilful as our modern ſeamen. Lieutenant Porter deſcribes Aſhtola as nearly three miles long, with two or three bays on the north ſide, where turtle may be caught in great abundance: the paſſage between this and the main is clear; but on the ſouth ſide there is a rock with foul ground, and overfalls for twelve miles. From the ſame memoir we have an account of the coaſt from Cape Arraba, on the eaſt ſide of which a bay[135] runs in ſo deep as to make the cape appear like

[133] Karnina. Kanina. Gron. MS. opt.
[134] Lieutenant Porter, p. 4.
[135] It is in that bay I place the anchorage.

an

an iſland [136], with a ſmaller one that has ſhoal-water on the weſtern ſide. The coaſt from hence to the weſtward is very craggy for ſeven or eight miles, being, as I imagine, the termination of that branch which ſhoots from the great chain inland, to the ſea, forming the boundary between the territory of the Oritæ and Gadroſia; and the riſe to this branch poſſibly commences at Morán.

At Kalama, the natives were diſpoſed to be hoſpitable; they ſent a preſent of fiſh on board, and ſome ſheep; but the very mutton was fiſhy, as were all the fowls they met with on the coaſt: neither is this extraordinary, for there was no herbage to be ſeen; and the animals, as well as the inhabitants, fed on fiſh. A few palm trees were obſerved about the village, but the dates were not in ſeaſon [137].

KARBIS COAST. KYSA VILLAGE. Dec. 2. Sixty-firſt day. Seventeenth ſtation. KISSA.

From Kalama they ſet ſail the following day, and, after a courſe of little more than twelve miles, anchored at Karbis, which is the name of an open ſhore, with a village called Kyſa, about two miles from the ſea [138]. The inhabitants fled upon the approach of the ſhips, and nothing was found in the place but the boats which the wretched fiſhermen of the coaſt uſed, and ſome goats which they ſeized and carried on board. Corn they ſearched for without ſucceſs, and their own ſtock [139] was almoſt exhauſted.

[136] An additional reaſon for its name, Bagaſira.

[137] χλωρὰς in the text. *Green.*

It is not impoſſible that the appearance of this fruit may be adduced to determine the ſeaſon of the voyage; for thoſe who have been on this or the neighbouring coaſts, cannot be ignorant of the time of year, when the date is green. I know not how to ſuppoſe that this can be the caſe in a northern latitude, however near the tropic, in December; nor, on the other hand, could I eaſily abandon all the data, by which I have determined the ſeaſon of the voyage, from a contradiction of this kind. However the naturaliſts may determine this point, the monſoon, which regulates my whole proceſs, is, in my eſtimation, a foundation which cannot be removed.

[138] Gron. MS. opt. Kiſſa.

[139] Probably what they had obtained from Leonnatus.

The

The following day they doubled a cape which projected nine miles into the ſea, and, after getting round, anchored in a ſafe harbour called Moſarna.

PASSENCE. POSMEE Cape.

MOSARNA Harbour. Dec. 3. Sixty-ſecond day. Eighteenth ſtation. No day ſpecified by Arrian, but allowed.

As Moſarna is the ſtation at which the voyage is to aſſume a new appearance, it becomes neceſſary to eſtabliſh the ſite of it with preciſion; and in this there would be no difficulty if there were any harbour, bay, or bight within a day's courſe from Cape Paſſence. The cape we cannot be miſtaken in, as the iſland of Karnine, or Aſhtola, fixes Kalama, and the courſe from thence; while the projection of Arrian's nameleſs cape correſponds almoſt exactly with that aſſigned to Cape Paſſence or Poſmee by Lieutenant Porter: but there is, in fact, no harbour here, or what might be deemed an harbour[140] even for a Greek fleet, repreſented in the charts; and Commodore Robinſon aſſured me that the chart of his ſurvey is accurate. If ſo, modern geography can afford us no aſſiſtance, and we muſt only ſuppoſe that, if ſuch a harbour formerly exiſted, it is now choked up. That there was one can hardly be doubted, for Moſarna is comparatively conſpicuous, being mentioned both by Ptolemy and Marcian as the boundary of Karmania and Gadroſia. Where to fix that boundary inland may be a difficulty; but Arrian, who calls the country inland Gadroſia, and the coaſt Ichthyophagi, takes no notice of Karmania till he comes to Cape Jaſk. On the contrary, Ptolemy and Marcian conſider the whole coaſt as Karmania from Moſarna to Cape Jaſk; and from thence to the river Bagrada in the gulph of Perſia. Be this as it may, my preſent purpoſe is to ſhew that Moſarna muſt be placed at ſome ſhort diſtance to the weſtward of Cape

[140] ἐν λιμένι ἀκλύστῳ is Arrian's expreſſion; it means *land-locked*, or at leaſt ſo ſheltered as to be a quiet harbour.

Paſſence, in conſequence of the fleet having doubled the cape that day, and come to an anchor near it in the evening. Arrian gives no number of ſtadia for this day's work, except his mention of the extent of the promontory; and as we have met with the ſame omiſſion on the doubling of Cape Irus or Monze, when the fleet anchored immediately in the bay which joins it, we may conclude the ſame circumſtance took place upon the preſent occaſion.

There is a paſſage in Lieutenant Porter's memoir, which, if I underſtand it right, confirms the poſition I aſſume for Moſarna. "Cape Poſmee appears like the top of an old barn in coming from "the eaſtward, but varies according to its different points of view, "which I have endeavoured to delineate as exact as poſſible; and "*from whence* is formed a ſmall bay, at the bottom of which is "a ſmall town called according to the name of the cape, chiefly "inhabited by fiſhermen." Now if it is allowable to interpret *(from whence,)* from Cape Poſmee, that is, to the weſtward of Poſmee, this poſition would anſwer exactly; but it is evident the chart does not authoriſe this, for the chart places the village of Paſſence or Poſmee eaſtward of the cape, and in the bay formed by the projection; and here, if the text of Arrian had not been poſitive to the contrary, I ſhould have placed Moſarna.

I ſtate the evidence on both ſides, and I confeſs my diſappointment in not being able to reconcile the apparent difference, as this village is ſtill a point for the caravans to make from within land; and the dingies[141], or veſſels of the country, ſtill reſort hither for dates, cotton, dried hides, and ſalt-fiſh; a trade which gives a relative importance to the place, conformably to my ancient authorities.

[141] Lieutenant Porter.

At

At Moſarna, Nearchus found a pilot who undertook to conduct the fleet to the gulph of Perſia; he was a native of Gadroſia, and from the name (Hydraces) given him by Arrian, I imagine, an inhabitant of Hydriacus, a town near the bay of Churbar or Chewabad, which I ſhall hereafter have occaſion to mention. The minute circumſtance of meeting with a pilot at this place denotes ſomething more commercial than any thing that has yet occurred on the coaſt; and Arrian ſuggeſts, that from hence to the gulph of Perſia the voyage was more practicable, and the ſtations [142] better known. Upon the acquiſition of Hydraces, or the Hydriacan, two circumſtances occur, that give a new face to the future courſe of the voyage; one is, the very great addition to the length of each day's courſe; and the other, that they generally weighed during the night: the former depending upon the confidence they acquired by having a pilot on board; and the latter, on the nature of the land breeze. I muſt recur to both theſe circumſtances as ſoon as the fleet leaves Moſarna; but, at preſent, I ſhall take the opportunity of laying down the detail of this coaſt from Moſarna to Badis, where it ends, by forming a Table from Ptolemy and his copyiſt Marcian, compared with the order of Arrian's ſtations, ſo that the whole of our ancient authorities may be exhibited at one view.

[142] Τὰ δὲ ἀπὸ τοῦδε ἤκιστα χαλεπὰ ἦν, ἀλλὰ μᾶλλόν τι ὁμολογούμενα, ἴσως ἐπὶ τὸν κόλπον τὸν Περσικόν. Which Rooke tranſlates: *Leſs difficult to be paſſed, though much more famous in ſtory.*

I am not ſure that I render ὁμολογούμενα right, but I apprehend it means, places better known, in oppoſition to thoſe obſcure coaſts or villages where they had hitherto landed. *Names more familiar*; at leaſt I have not witten nonſenſe.

Porter bears evidence to the better appearance of the country between Churbar and Jaſk, p. 9.

TABLE for comparing ARRIAN, PTOLEMY, and MARCIAN.

ICTHYOPHAGI.

From MOSARNA to BADIS.

ISLANDS in PTOLEMY.	From MOSARNA	PTOLEMY.	MARCIAN.	Stadia	ARRIAN.	Stadia	MOSARNA is Cape Paſſence, Paſſaum, Poſmee. Modern Names.
Pola, Polla, Palla, off at ſea, no correſpondent iſland in modern charts.	1.	To Zorambus[b], — —	Zorambus, —	300	Balomus[b], —	750	
	2.	To Barada, Badara, — —	Badara, — —	200	Barna, — —	400	
	3.	To Deren-óbila[a], — —	Deren-obilla, —	250	Deren-óboſa, —	200	Daram, Duram.
	4.	To Kophas[a], Kophanta, —	Kophas, — —	250	Kophas, — —	400	Eaſtern Bay, at Guadel.
Libé, Libá, Zibé, off Alambateir; Guadel Head.	5.	To Alabagium[c], Alabater, Alambateir,	Alambateir, —	250			Guadel Head.
	6.	To Kyeza, — —	Kyiza, — —	400	Kyiza, — —	800	Eaſt Point, Guttar Bay.
	7.				A ſmall town, —		in Guttar Bay.
	8.	To Bagia Prom. — —	Kaſia, — —	250	Bageia, — —	500	Weſt Point, Guttar Bay.
Karminna, off Deren-obilla; Karnine of Arrian, off Churmut, or Calametta.	9.	To Hydriakus, Candriakes River,	Hydriakus, —	400	Talmena, —	1000	Kie-chenk River.
	10.	To Tyſa, — —	Teſa, Teiſa, —	200	Kanaſida, Kana-diſa,	400	Teiz, Churbar.
	11.	To Samy-Daké, Samy-Kadé, —	Samy-Daké, —	400	Kanaté[e], —	750	Tanka River.
	12.	To Maſis, Magis, Magida, Mazinda,	Paſis, — —	500	} } Troeſi[f], —	800	
	13.	To Sarus River, — —	Salarus, — —				
Aſthæa, long. 105°, lat. 18°, miſplaced, but preſerving the name of Aſhtola.	14.	To Rhogana[d], Kogana, (Ptol. p. 157.)	Rhogana, — —	200			
	15.	To Nommana[d], Kombana, —	Ommana, — —	150			
	16.	To Agris, — —	Agriſa, Agariſa, Agaſira,	600	Dagaſira, —	300	
	17.	To Kantheatis, Kanthapis, —	Kaneatis, Kauratis, —	250	Badis, — —	1100	Jaſk.
				4600		7400	
Kodané, long. 107° 30', lat. 17°, quite uncertain.	18.	To Karpella, — —	Karpella, — —	1000		7400	Cape Bombareek[g].

4600 ſtad. — 575 { M. B. at 8 to a mile. | 7400 ſtad. — 462 { miles Brit. at 16 to a mile.

Diſtance from Moſarna to Badis by Robinſon's chart, in a right line, 362 | 362

213 | 100

[a] Kophas and Deren-obilla tranſpoſed to agree with Arrian.

[b] Zorambus tranſpoſed to correſpond with Balomus, by which means Barna and Badara agree. And if in Deren-obilla, it is juſt to give the preference to the account of the journal kept from day to day, the tranſpoſition of Zorambus is not unreaſonable.

Alambateir, or Guadel, and Tyſa, are aſcertained points; but from Guadel to Tyſa, by Marcian, is 156 M. Brit. by Robinſon, is 117

This is the beſt interval for comparing Marcian with the modern charts. Robinſon's diſtance is by the opening of the compaſſes.

[f] Troeſi. The corruption of the text in the reading of this word is ſuch, that whenever Sarus or Salarus, Maſis or Paſis, can be diſcovered, it may be reduced to any form which will correſpond.

[g] The diſtance between Jaſk and Bombareek is in reality 27 miles, equal to 432 of Arrian's ſtadia.

REMARKS.

[c] A-la-bagium is the only name on the coaſt in which Ba does not intimate a bay.

[e] Between Kanaſida and Kanaté, there is a nameleſs ſtation omitted, but the 750 ſtadia to Kanaté are ſuppoſed to comprehend the diſtance.

Moſarna, or Paſſence, and Guttar, or Kyiza, are points aſcertained; but from Paſſence to Guttar, by Arrian, is 159 M. Brit.
by Robinſon, is 125

This is the beſt interval for comparing Arrian with the modern charts. Robinſon's diſtance is by the opening of the compaſſes.

Arrian, from Moſarna to Kyiza, 2550 ſtad.
Marcian, — — 1650 ſtad.

Marcian, as will appear hereafter, reckons eight ſtadia to a Roman mile, and conſequently he is here, upon a given diſtance, more in excels than Arrian.

[d] Rhogana, Nommana, have no correſpondent ſtation in Arrian, neither does any fite occur unleſs between the two capes weſt of the Tanka.

Barada, Badara Nommana, Kombana, Ommana, Kogona, Rhogona, Kantheatis, Kanthapis, Kauratis, &c. furniſh greater fluctuation than any aſſumed by the author to obtain an etymology.

In this Table I have given the number of ſtadia as they appear in Arrian and Marcian; but as all Greek numerals are defective, and as I have already partly accounted for the inaccuracy of Nearchus's reckoning on this coaſt, ſo I imagine the numerals in Marcian [143] are ſtill leſs to be depended on, his total rarely agreeing with his particulars, and his order of names not being correct. Equally inaccurate are the longitudes of Ptolemy, and yet, from a compariſon of the three, the whole may admit of regulation, and the errors be made mutually to correct each other: of this ſomething more will be ſaid. If I prefer the authority of Arrian, it is not from predilection, but becauſe Nearchus's journal, ſtanding upon each day's work in the order it aroſe, muſt be more authentic (if we have a faithful copy of it) than any thing Ptolemy could obtain from the information of others.

The Table commences from Moſarna, and ends at Bombareek, the Karpella of Ptolemy.

It does not appear that any ſupply was procured for the fleet at Moſarna but water [144], and perhaps fiſh; but taking the pilot on board, they weighed anchor in the night, and proceeded forty-ſeven [145] miles to Balómus. The length of this day's courſe is ſuch as has not occurred before, and muſt therefore be imputed to the charge Hydraces had taken of the fleet; and we ſhall find, on ſome of the following days, their courſe extended to even fifty-five or ſixty miles; not that it is intended to aſſert that theſe meaſures are correct, but only that their progreſs was much increaſed and per-

BALÓMUS. Dec. 4. Sixty-third day. Not ſpecified, but allowed. Nineteenth ſtation.

[143] Marcian himſelf acknowledges the great difficulty of giving diſtances accurately, from a variety of cauſes, in the proem to his work, well worth conſulting.

[144] Καὶ ὕδωρ αὐτόθι ἦν καὶ ἁλιέες ᾤκεον.

And if Paſſehee is Moſarna, Lieutenant Porter's memoir is in perfect correſpondence. Dried fiſh he ſpecifies as an article of trade; and adds, "Water is to be procured here in "the ſame manner as at Sommeany. Goats "alſo, but very lean, and not reaſonable." The people are Blochees, *and very civil.*

[145] Seven hundred and fifty ſtadia.

haps

haps their ideas magnified in proportion. The circumſtance of their ſailing in the night is likewiſe to be noticed, for though this may have occurred accidentally before, we ſhall now find it a prevailing practice; and as this is an additional proof of the advantage gained by the acquiſition of a pilot, it is important to conſider the cauſe which led to the adoption of this practice.

I know not that I am authoriſed to ſay, it is an univerſal cauſe, but doubtleſs it is general, that in every region within the limits of the trade winds or monſoons, a land breeze blows during the night, and a ſea breeze during the day. Mr. Marſden, in his Hiſtory of Sumatra [146], has given a curious and philoſophical account of the means by which theſe effects are produced. With the cauſe I am not concerned, but the effect is, that, "on the weſt "coaſt of Sumatra, the ſea breeze uſually ſets in, after an hour or "two of calm, about ten in the forenoon, and continues till near "ſix in the evening; about ſeven, the land breeze comes off, and "prevails through the night, till towards eight in the morning, "when it gradually dies away [147]. This is Mr. Marſden's account; and if his reaſoning upon the cauſe is juſt, as apparently it is, it muſt produce the ſame effect wherever the ſame circumſtances exiſt; and that this effect takes place upon the coaſt where we are now employed, is a fact capable of proof.

Captain David Rannie [148] mentions the land breeze upon this coaſt, as well as thoſe of Malabar and Guzerat; and he adds afterwards [149] expreſsly, "if a land wind blows from theſe coaſts, either "in the night or morning, a ſhip working along may depend upon "a ſea breeze, or at leaſt a wind along the coaſt, from the north

[146] From p. 15 to p. 19.
[147] P. 16.
[148] In Mr. Dalrymple's Collection, p. 87, et ſeq.
[149] P. 88.

"weſt-

" weſtward [150], to carry her in ſhore again, and neither is the land " or ſea breeze ever attended with ſqualls of thunder or rain, as the " land winds frequently are on every coaſt of India."

Here is a collection of circumſtances dependant on the invariable courſe of nature, which throws more light upon the journal we are contemplating than could have been expected to be obtained at the diſtance of ſo many ages; the tranquillity of the ſea, the advantage of different breezes, and the ſecurity of navigation, all contribute to the accompliſhment of this voyage, as a prelude to the communication with India, in veſſels of ſuch a ſort as muſt probably have periſhed on any other coaſt of equal extent: but there is a peculiarity in this evidence of Captain Rannie, that accounts for a circumſtance in the voyage which, without it, would have been inexplicable. We have ſeen the fleet paſs two capes, Arraba and Poſinee, with ſome ſymptoms of alarm or difficulty, and both noticed in the journal; but we are now approaching a third at Guadel, which Arrian never mentions. We ſhould reaſonably be ſurpriſed at this, as the doubling of a cape is always an atchievement in the eſtimation of a Greek navigator; but having now a native pilot on board who was doubtleſs acquainted with the nature of the winds, it is evident he took advantage of the land breeze to give the fleet an offing, and an head-land was no longer doubled by creeping round the ſhore to its extreme point. This is clearly the reaſon why we hear nothing in Arrian of Ptolemy's Alabagium [151], or Alambateir,

[150] " Before you come to Cape Guadel, " if the eaſtern monſoon leave you when you " croſs the tropic, your beſt courſe is to ſtand " in for the ſhore, and ſo ply it up; becauſe " there you ſhall have the land breezes in the " night, and the ſea breezes in the day many " times, and alſo a current ſetting to the " weſtward, until it meet with the current off " the gulph." J. Thornton, in Dalrymple's Collection, p. 66.

[151] From the Arabic article Al in this word, I find freſh proof of an Arabian navigation on this coaſt; and I am perſuaded that Al-abagium and Al-ambateir will be found to have an Arabic etymology.

the

the prominent feature of this coaſt; the difficulty was ſurmounted without danger, and therefore paſſed over without notice. I anticipate this obſervation as it is connected with the knowledge of the winds, which we have here acquired, and with the ſkill of Hydraces, who was now on board.

Balómus is not noticed by Ptolemy or Marcian, nor is their Zorambus mentioned by Arrian; if, therefore, it had ſtood in the journal poſterior to Barna, inſtead of prior, there would have been little doubt of its correſpondence with Zorambus. Even now, there is reaſon to ſuppoſe it the ſame, from the reſpective omiſſions; and if, upon theſe grounds, it ſhould be thought right to reduce the three to a conſiſtency by an inverſion of the order, Nearchus might claim the preference, as his journal is kept from day to day. The reſemblance of names would juſtify the following correction, upon which the preceding Table has been conſtructed.

Ptolemy and Marcian.	*Arrian.*	*Ptolemy and Marcian reduced to Arrian.*
Moſarna.	Moſarna.	Moſarna.
———	Balómus.	Zorambus.
Badara, or Barada.	Barna.	Barada.
Zorambus.	Dendróboſa.	Derenóbila.
Kophas.	Kophas.	Kophas.
Derenóbila.	———	———
Alambatier.	———	*Guadel.*

The diſtances are omitted in both; thoſe of Arrian becauſe they are evidently too large, and thoſe of Marcian becauſe they do not correſpond. The real diſtance by the chart is not more than ſeventy miles, or, with allowance for the coaſt, eighty-two; whereas the particulars of Arrian make the total one hundred and nine, and thoſe of Marcian ſixty-two.

Balómus

Balómus is a village on an open ſhore, and no day is ſpecified in the journal till they arrived at Dendróboſa. A day is, notwithſtanding, allowed to each ſtation which is named, as an error is of leſs importance on this ſide than on the other, and may be eaſily corrected, if the exceſs is too great, when Nearchus joins the army again in the gulph.

BARNA. Dec. 5. Sixty-fourth day. BARADA. BADARA of Ptolemy. Twentieth ſtation.

The next ſtation is Barna, twenty-five miles from Balomus, a village only, but recommended by ſome circumſtances of diſtinction; for here the inhabitants were found not ſo utterly ſavage in their manners and appearance, and ſome cultivation was obſerved both of fruit-trees and gardens. The palm is mentioned without any notice of its fruit, and the gardens are deſcribed as producing flowers and myrtle [151], of which they made chaplets [152]; indulging, for the firſt time perhaps ſince the voyage commenced, one of their native [152] luxuries.

DENDRO-BOSA. Dec. 6. Sixty-fifth day. Δενδρώσσα. Perhaps DERENOBILLA of Ptolemy. Twenty-firſt ſtation.

From Barna the fleet proceeded [153] twelve miles, to Dendróboſa; and here the ſhips could not approach the ſhore, but rode at anchor. This circumſtance may induce us to ſuppoſe, that the whole courſe from Moſarna to this place is the courſe of one night, and to the evening of the following day; if ſo, it makes thirteen hundred and fifty ſtadia, or eighty-four miles. Both the diſtance and the time em-

[151] μύρσινοι. Q?

[152] The pleaſure which the Greeks received from wreaths and chaplets in their convivial hours, is too notorious to inſiſt on. The expreſſion, as it ſtands in the printed copies, is, ἄνθια, ἀφ' ὅτων στεφανώματα τῇσι κωμήτῃσιν ἐπλέκοντο; rendered, *flores è quibus paganæ corollas texebant*; but which ſhould rather be, *corollæ texebantur paganis innectendæ*. A piece of gallantry either way, not unlike that of Britiſh ſailors and Otaheite women. But Gronovius's beſt MS. reads κώμῃσι, inſtead of κωμήτῃσι, *their own head*, not *the head of the villagers*. I am ſorry to loſe a circumſtance which bears ſo much reſemblance to the manners of modern voyagers; but I think the middle verb, ἐπλεκόντο, confirms the reading of Gronovius.

[153] Περιπλώσαντες intimates a cape or projection here; poſſibly the high land of Daram mentioned by Lieutenant Porter; and conſequently Ba has the ſenſe aſſigned.

ployed are to be admitted with ſome reſerve, and with this obſervation, that there muſt be an exceſs in the diſtance, as eighty-two miles would carry us to Alambateir, or Cape Guadel; and Arrian has ſtill four hundred ſtadia to Kophas, which precedes it. That the courſe is only the work of one night and day I am inclined to believe, though I mark it otherwiſe in the margin, for the reaſon already given; and this is the more probable, as the fleet is ſaid immediately afterwards to have weighed from hence at midnight.

That Dendróboſa [154] is the Derenobilla of Ptolemy, and that Ptolemy's order ought to be inverted, receives the ſanction of Hudſon [155]; who ſays, he once thought the ſame. Why he changed his opinion does not appear, but the name differs no more in reality than Deren-óboſa, Deren-óbola, Deren-óbila, and I imagine Deren, the conſtituent part of the name, is ſtill preſerved in the Daram, or Duram, of Lieutenant Porter, who places this as a high land on a part of the coaſt between Cape Paſſence and Guadel, in a ſituation which would correſpond with Deren-óboſa; as I conjecture Shied and Muddy Peak would agree with the other names of Arrian, if they had been inſerted in Commodore Robinſon's chart.

KOPHAS. KOPHANTA. Dec. 5. Sixty-ſeventh day. Twenty-ſecond ſtation.

From Dendróboſa the fleet weighed at midnight, and reached Kophas [156], after a paſſage of twenty-five miles. And here a variety of difficulties ariſe, which I deſpair of ſolving to the ſatisfaction of

[154] The change of letters in this word is juſtified by the organs of ſpeech, and exemplified in Τέρην, Greek; Tener, Latin; Tender, Engliſh.

[155] Hudſon Geog. Min. Marcian, p. 23.

[156] Ptolemy appears to uſe this name as a plural, Κώφιτα. It occurs but once in Arrian, and then without an article; but Marcian uſes it, ἀπὸ δὲ Κώφαντος, which marks Kophas as the right name.

the reader. I place Kophas to the eaſtward of Alambateir, or Cape Guadel, becauſe Ptolemy, Marcian, and Arrian, all concur in the ſame aſſertion; but de la Rochette carries it to the weſtward, into the bay formed by the projection of that headland. This can hardly be juſtified in oppoſition to all the ancient authority we have, however obſcure it may be. This cape is the moſt conſpicuous feature upon the whole coaſt, and forms the termination eaſtward of a vaſt imaginary bay, which Ptolemy calls Paragon Sinus, and the author of the Periplus, Terabdon. The weſtern extremity they place at Karpella [157], ſo that if the exiſtence of this bay were eſtabliſhed, it would be near three hundred miles acroſs; but it does not exiſt. The coaſt riſes gently, indeed, about half a degree towards the north, during its whole courſe; and though there are two or three ſmall indentures, there is no general curvature whatſoever. The miſtake of Ptolemy (of far leſs magnitude than his error in regard to the peninſula of India) admits of a ſolution nearly ſelf-evident; for the fleets from Egypt which ſailed with the monſoon from the promontory Syagros in Arabia, if they ever made the coaſt of Gadroſia, made it at this cape of Alambateir, as a point of eminence, and left all the coaſt from Cape Jaſk on their left out of ſight; this naturally raiſed the idea of a curve inwards, becauſe no land was ſeen; and if Ptolemy knew any thing of ſuch veſſels as ſailed from the gulph of Perſia, or if any did in reality ſail, they alſo, from the moment they doubled Cape Jaſk, took advantage of the monſoon, and did not creep along the ſhore like the fleet of Nearchus, but

[157] Upon conſulting other paſſages of Ptolemy, it does not appear that he uſes κόλπος preciſely as a bay. His κόλπος παλώδης, in the gulph of Perſia, is not a bay: but Francklin, when at Maſkat, uſes a peculiar expreſſion—"Cape Roſalgat, which is oppoſite the *Scindian Gulph*;" apparently giving ſupport to the idea of calling that ſea a gulph which lies between the coaſt of Arabia and Scindy, in which the entrance into the gulph of Perſia is diſregarded. See Francklin's Tour, p. 35.

ſtood off from one headland to another, and avoided the interruption which the land winds or the nature of the ſhore preſented. It is, therefore, the diſcovery of Hippalus, the knowledge of the monſoons, which preceded the age of Ptolemy, that gave a different idea of this coaſt to the mariners of his time, from whoſe information he drew his plan of this great bay; and it is modern geography alone which has deſtroyed his curve, and reſtored the right line of Nearchus. So conſiſtent is truth, and ſo erroneous is conjecture.

We ſhall find, however, that the general arrangement of names in both theſe authors correſponds; and though it is highly extraordinary that no notice of Cape Guadel occurs in Arrian, ſtill as Ptolemy places Kyiza immediately to the weſtward of Alambateir, and Kophas to the eaſt, we muſt admit that the Kyiza of Arrian, coming next in ſucceſſion to Kophas, naturally concludes Alambateir between the two, and reconciles both[158] authors happily to each other.

CAPE GUADEL.

ALABAGEION[159]. ALAMBATEIR of PTOLEMY.

Longitude	°	′	″	Latitude	°	′	″
by Ptolemy - -	101	0	0		20	0	0
by MacCluer, - -	60	34	0		25	7	0
and from Ferro, -	17	40	0	Robinſon,	25	4	0
	78	14	0				
Ptolemy corrected by Goſſelin,	72	0	0				

[158] Marcian, as the copyiſt of Ptolemy, is always included in this eſtimate.

[159] The Weſtern point of Guttar Bay is called BAGEIA; and the etymology of that word would explain ALA-BAGEION, in which the Arabic AL is viſible. This is Ptolemy's own word. Alambateir is from Marcian, and the Latin copies; and Ambateir is not without a relation to Bageion, if it were diſcoverable.

There

There is ſome great error in the copies of Ptolemy here, for Kyiza is placed 15′ to the eaſt of Alabagium, although it is to the weſt of it; and Bagia Prom. in the ſame longitude with Alabagium, though it is a whole degree to the weſt.

The head of Cape Guadel ſtretches out parallel with the coaſt like the Pharos of Alexandria, and being joined to the main by a neck of land not half a mile over, makes two bays, one to the eaſtward and the other on the oppoſite ſide; that on the weſt is largeſt and moſt ſheltered, with twelve or thirteen fathoms at the entrance, and ſhoaling to the upper part. The town of Guadel is ſituated cloſe under the north ſide of the cape; that on the eaſt is ſmall, and not well ſheltered, in which, however, we muſt ſuppoſe Kophas to lie, and poſſibly near the point marked at its entrance from the eaſt. Mr. Dalrymple has enabled me to preſent the reader with a plan of this bay, and the ſoundings will ſhew, that in whatever part of it we place Kophas, there is a ſufficient depth of water for Greek gallies; poſſibly, at the favourable time of the year when Nearchus ſailed, ſuch ſhelter as the ſhore itſelf afforded was ample ſecurity. Between this bay and the other on the weſtern ſide there is a neck which joins the peninſula to the main, and which has been fortified by a wall [160] with towers. There are ſtill the remains [161] of a town built with ſtone, but the preſent inhabitants live in mat houſes, and trade, which has been formerly conſiderable, is now ruined by the miſerable ſtate of the country [162]. Water is procured here by opening pits on the beach; goats, ſheep, and fowls are likewiſe to be purchaſed. Theſe circumſtances, inſignificant in themſelves, are of

[160] Poſſibly a work of the Portugueſe, who had a ſettlement here, if not of more ancient date.

[161] Lieutenant Porter's Memoir.

[162] Hamilton mentions this decline in his time.

ſome

ſome conſequence to navigators; and induce a probability that conveniences were not leſs attainable here in former ages than at preſent. Good water is a commodity ſpecified in the journal, which adds, that the place was inhabited by fiſhermen, who were poſſeſſed of ſmall and wretched boats, which they managed with a paddle inſtead of an oar. The expreſſion is characteriſtic, for Arrian ſays, it was like digging the water with a ſpade; and whoever has ſeen the New Zealand canoe, in Cook's firſt voyage, can hardly conceive the idea repreſented with more preciſion.

No where have I found more difficulty to render the narrative conſiſtent, than from Moſarna to this place. Moſarna I have fixed by the neighbourhood of Aſhtola and Cape Poſmee, and Kophas is, I hope, eſtabliſhed by means of Ptolemy, and the poſition he gives to Alambateir; the diſtances appear incapable of correction; on this head I have confeſſed my inability to obtain the truth, and muſt hope for indulgence where the means of information are ſo deficient.

Two iſlands are noticed by Ptolemy and Marcian in this neighbourhood; one called Pola, Polla, or Palla, at ſome diſtance from the coaſt, for which I can find nothing equivalent; and another named Libe, Liba, or Zibe, cloſe to Alambateir; the latter I conclude to be nothing more than this very peninſula of Guadel before us, which may have been an iſland [163] till connected with the main by the increaſe of the neck of land, or might be conſidered as ſuch, like the Pharos of Alexandria.

From Kophas, in the eaſtern bay of Guadel, the fleet ſailed early [164] in the evening, and, after a courſe of fifty miles, reached

[163] Seen poſſibly as an iſland at ſea, from the lowneſs of the coaſt.

[164] About the firſt watch; ſix o'clock. This is the third inſtance of weighing at night.

Kyiza,

Kyiza, which, by the diſtance ſpecified, ought to be the Noa Point of Lieutenant Porter, forming the entrance of Guttar Bay from the eaſtward: but if we are to ſuppoſe that the eight hundred ſtadia, mentioned for this day's work, exceed as much as thoſe of former days, we muſt place Kyiza [165] on the coaſt ſomewhat ſhort of Noa Point; and for this there is a ſufficient reaſon from the next day's courſe of four hundred ſtadia, which would be evidently too much for the termination we muſt allot. Marcian (if his numbers are of any value) places Kyiza at fifty[166] miles from Alambateir, or Cape Guadel.

KYIZA. Dec. 8. Sixty-eighth day. Allowed. KYIZA. Ptolemy. Twenty-third ſtation.

A plan of Guttar Bay is given in the general Chart, No. I. and will, by the allowance here made, anſwer in poſition to the tranſactions which are to take place on the following day.

At Kyiza the men could not land, as it was an open ſhore with a great ſurf [167]; they therefore took their meal [168] on board at anchor, and then weighing, proceeded upwards of thirty miles to a ſmall city placed on an eminence, at no great diſtance from the ſhore.

A SMALL CITY. Dec. 9. Sixty-ninth day. Twenty-fourth ſtation.

This nameleſs city is not without features to diſtinguiſh it; for Lieutenant Porter ſays, though the land round the bay is ſo low, that you can neither ſee the other ſide nor the bottom of the bay, from Noa Point; yet there is a hummock or two viſible which appear like iſlands, and one of theſe hummocks we may aſſume for the eminence [169] of Arrian upon which this city was ſituated. "We

[165] See the Table, where it is aſſumed that Nearchus reckons, between Kyiza and Talmena, from the extreme points of each bay; that is, from the eaſtern point of Guttar Bay to the weſtern point of Churbar.

Kuidſa, or Kuiſda, as this word would be written in Greek letters, approaches very near to Khudar; the Oriental orthography according to Otter, vol. ii. p. 409.

[166] At eight ſtadia to a mile, Marcian's numbers agree with Arrian's. Fifty miles.

[167] ῥαχίη. If there was a ſurf, it is an additional reaſon for placing Kyiza previous to Noa Point.

[168] ἐδειπνοποιέοντο, is not preciſe enough to ſpecify an evening meal, but is apparently ſo.

[169] γηλόφου.

"found,"

" found," ſays Lieutenant Porter, " *a ſmall town* at the bottom of " the bay, inhabited by fiſhermen." Is it not a whimſical coincidence, that at the diſtance of two thouſand years, an Engliſh navigator ſhould find a town without a name, as well as Nearchus? I do not build upon this; nor do I aſſert, that the town I am looking for ſtands where the preſent town does; this is doubtleſs Guttar; but I can place Nearchus's town any where in the bay that the poſition of a hummock will juſtify, and I rather ſuppoſe on the weſtern ſide, as Lieutenant Porter appears to have viewed the hummocks as he entered the bay from the eaſt.

When the fleet reached this place, it was totally without bread or grain of any kind; and Nearchus, from the appearance of ſtubble in the neighbourhood, conceived hopes of a ſupply if he could find means of obtaining it; but he perceived that he could not take the place by aſſault; and a ſiege, the ſituation he was in, rendered impracticable. He concerted matters, therefore, with Archias, and ordered him to make a feint of preparing the fleet to ſail, while he himſelf with a ſingle veſſel, pretending to be left behind, approached the town in a friendly manner, and was received hoſpitably by the inhabitants. They came out to receive him upon his landing, and preſented him with baked fiſh, (the firſt inſtance of cookery he had yet ſeen on the coaſt,) accompanied with cakes [170] and dates [171]. Theſe he accepted with proper acknowledgments, and informed them he wiſhed for permiſſion to ſee the town: this requeſt was granted without ſuſpicion; but no ſooner had he entered, than he ordered two of his archers to take poſt at the gate, and then mount-

[170] πέμματα ὀλίγα.

[171] This does not ſpecify the ſeaſon of the ripe fruit. They might be dried. I do not ſpeak from authority, but I think the date is gathered in April or May.

ing

ing the wall contiguous, with two more and his interpreter, he made the ſignal for Archias, who was now under weigh, to advance. The natives inſtantly ran to their arms; but Nearchus, having taken an advantageous poſition, mad· a momentary defence till Archias was cloſe at the gate; ordering his interpreter to proclaim at the ſame time, that if they wiſhed their city to be preſerved from pillage, they muſt deliver up their corn, and all the proviſions which the place afforded. Theſe terms were not rejected, for the gate was open, and Archias ready to enter; he took charge of this poſt immediately with the force which attended him, and Nearchus ſent proper officers to examine ſuch ſtores as were in the place, promiſing the inhabitants that, if they acted ingenuouſly, they ſhould ſuffer no other injury. Their ſtores were immediately produced, conſiſting of a kind of meal [171] or paſte made of fiſh, in great plenty, with a ſmall quantity of wheat and barley. This, however inſufficient for his wants, Nearchus received, and, abſtaining from farther oppreſſion, returned on board with his ſupply. The fleet hauled off to a cape in the neighbourhood called Bageia, and there anchored at no great diſtance, as I conclude [172], from the town.

BAGEIA. PROM. Twenty-fifth ſtation.

The circumſtance of a cape here determines, in my opinion, the correſpondence of all particulars relating to this place; for this cape muſt be the weſtern point of Guttar Bay, and all the circumſtances unite in giving a poſition to this nameleſs town on the weſtern ſide of the bay, as I have done.

[171] This is not more extraordinary than that cattle ſhould eat fiſh, as mentioned above; or than the Caviar of the Wolga. Lieutenant Porter reports, p. 13, that at Maſcat in Arabia they make a mixture of fiſh and dates with a kind of earth and water, which the cattle eat as their common food, and it is extremely fattening.

See *infra*.

[172] No diſtance is mentioned, and it appears like immediate anchoring, after leaving the town.

Lieutenant Porter writes, "The bay[173] is large and deep, with ſhoal "water, and in croſſing right over from Noa Point, a lump is ſeen on "the oppoſite ſhore, with an iſland nearly under it, and a little bay "called Bucker Bundar[174], where the natives fiſh, and where the San-"ganian pirates often lie in wait for the ſmall veſſels that trade along "the coaſt." To this lump I had looked for the eminence on which the town ſtood, but it is inland, and ſtands on the high ground behind. I have little doubt, however, that this lump directed Nearchus as the firſt point ſeen acroſs the bay, and led him to the town itſelf. And if it is thought extraordinary that he does not mention a bay here, it is not more ſo than his omiſſion of Cape Guadel, and it ought to be obſerved, that when he calls Bageia a cape, a cape neceſſarily implies an indenture on one ſide or the other.

From theſe various deductions I conſider this nameleſs town and Guttar Bay as identified[175], and I now return to attend the fleet on its progreſs.

But before I enter upon the remainder of the courſe from Bageia to Badis, it is neceſſary to take a general view of the coaſt, in order to diſpoſe of the intermediate ſtations which Nearchus, from the diſtreſs of the fleet, had little opportunity of deſcribing; and on which, conſequently, the ſcantineſs of the journal leaves great ob-

[173] Memoir, p. 7.

[174] A relation may be ſuſpected between Bucker and Bageia, Buckah.

[175] There can be no poſſibility of error, unleſs it ſhould be thought worth while to pay attention to the ſtadia of Marcian. He reckons twenty-five miles from Alambateir to Kyiza, and ſixteen from Kyiza to Kaſia, *i. e.* Bageia. This would make Bageia and Noa Point the ſame; and place the nameleſs town of Arrian eaſtward of Noa Point. Even upon this ſuppoſition, there can be no greater error than the breadth of the bay; and the numbers of Marcian are too diſputable to ground this alteration upon them.

ſcurity.

ſcurity. Kophas, Alambateir, Kyiza, and Bageia, correſponding in the three authors, conduct us ſafely to this point; and thus far there can be no error, unleſs I have aſſumed Bageia for the weſtern point of Guttar Bay inſtead of the eaſtern: but the reaſons already given are more than ſufficient for the occaſion.

I am now to take the departure of the fleet from this ſtation of Bageia, and the firſt ſtep to Talmena is the greateſt difficulty; for the diſtance given by the journal between Bageia and Talmena is a thouſand ſtadia, or ſixty-three miles, an eſtimate which carries Talmena beyond Churbar Bay, and which, if a remedy is ſought by commencing the courſe from Noa Point, encroaches as much on the previous meaſures as the contrary ſuppoſition does upon the ſubſequent part of the coaſt. I had, however, originally fixed Talmena at Churbar, Kanaſida at the Tanka, Kanaté at Kalat, Trœſi at a creek, and Dagaſira at a headland previous to Muckſa [176]; but by means of freſh information collected from Otter, I have been induced to alter this arrangement, and abandon the meaſures of the journal. The following diſcuſſion I ſubmit, with ſome degree of heſitation, to ſuch as may be diſpoſed to examine a queſtion which, though not important, has at leaſt reſearch and novelty to recommend it.

The three [177] following ſtations in Arrian are Talmena, Kanaſida, and Kanaté; and in the ſeries of Ptolemy there is a Kandriakes, anſwering to Talmena; if, therefore, we aſſume Kandriakes for Talmena, we obtain three ſucceſſive names, of which Kan is the initial component part. Now it appears from Otter, that the

[176] The Chart, No. I. will give all theſe poſitions.

[177] There are four in reality, for a nameleſs one is placed between Kanaſida and Kanaté, which is poſſibly the modern Godeim.

Oriental accounts which ſpecify the rivers of the Mekran, employ the adjunct Kienk or Kenk, as the Perſians uſe Ab [178] or Roud, to expreſs a river; thus we have Kiourkienk, Nehenk, and Kiechenk [179], all of which d'Anville has adopted in his map [180] of Mekran, and given them the courſe aſſigned by Otter. The ſame term is found in Suſiana, for Cheref-eddin [181] mentions a Hoo-chenk and a Dou-danke croſſed by Timour in the neighbourhood of Suſa, the poſition of which will be aſcertained in its proper place: but this term takes two different appearances in its derivation from the original form, Dsjenk paſſing, by one proceſs, from Sj into Chienk, Kienk, Kenk, Ken, Kende, and Kande; and, by another, from D into Dienk, Denk, and Danke. In its firſt form, it is connected poſſibly with Tchen, Chen, the root of the Chen-ab or Akeſines; with the Ganga, the Ganges, the Kiſhen-Gonga, the Sevi-Gonga of India; and with the Gihon of Sogdiana: in its ſecond, Denk furniſhes the Dou-Danké of Suſiana, and the Samy-Daké of Ptolemy, which is the Danké or Tanka [182] river of the modern charts on this coaſt. This term, in one or other of theſe ſhapes, appears the moſt ancient [183] expreſſion for a river of any that occurs; and it may be eaſily ſhewn that Ptolemy knew of its various orthography and its meaning; for he writes both Samy-Daké and Samy-Kadé, and he interprets Kand-riakes by Hudr-iakes, evidently from Ὑδωρ, the Greek term for WATER. Upon conſulting Otter, I find a ſtream

[178] Ab-Schirin, Ab-Argoun, Roud-chiour.

[179] Chienk, Chenk, paſs into Kienk, Kenk, by an Oriental variation, as Kirbe, Girbe, Jirbe, the ſkin for water uſed in caravans, and Chienk, Jienk, into Dienk, Denk, by the ſame analogy as Jumna into Diamuna.

[180] Aſie première partie.

[181] See *infra* in Suſiana.

[182] Written Tanqua by Reſſende. Portug. and Tanqua Banqua, the white river.

[183] If it be really connected with Gihon, as I ſuppoſe, it is as old as the book of Geneſis.

in

in this neighbourhood called Kié-Chek [184], which may be interpreted the river of Kié or Guié, an inland town at ſome diſtance [185] from the coaſt, and I cannot help thinking that Ptolemy's Kandriakes is a tranſpoſition of the ſame word Kande-Kié, or Kandre-Kié, for Kié-Kande. Otter ſays, this river falls into the ſea between Khudar and Pichin. Pichin [186] is not diſcoverable, but Khudar is Guttar Bay, which the fleet has now juſt left, and it Pichin is to the weſtward, we have the mouth of this river falling into the ſea between Guttar and Churbar, correſponding with the Kandriakes of Ptolemy. If it were now poſſible to identify the Talmena of Arrian with this Kandriakes, the journal would be clear; but Talmena has no alluſion to a river; it ſignifies a ruined [187] fort, and that is an object which might occur in one part of the coaſt as well as another. What remains, then, but to conſider the ſeries of both authors, and examine how far they correſpond?

Ptolemy.	*Arrian.*
Bageia,	Bageia,
Kandriakes,	Talmena,
Tyſa,	Kana-ſida,
Samy-Kadé.	Kan-até.

[184] It is true that Otter conſiders Kié-Chek as a fort; and yet he writes, *Le Kiour-Kienk recoit auſſi l'eau de Kié-Chek.* Chek is Chenk, or Kienk.

[185] Five days or a week; one hundred or one hundred and twenty miles.

[186] D'Anville gives Pichin a ſituation ſuch as is required; but I apprehend has only Otter's authority; for I do not find Pichin in Al Edriſi.

[187] Mina, Minau, at the Anamis, and Minavi, at Baſra, are expreſſive of a fort. Tal is, in Hebrew, a ruinous heap; and from hence, perhaps, Arabic or Perſic. That ſuch ruins were as common on the coaſt formerly as at preſent, there can be little doubt; for the Belootches from the eaſtward, and the native Gadroſians are both tribes of plunderers. The very next ſtation at Kanaſida is noted by the journal as a *ruined city*. Thus has rapine joined with avidity to deſolate this coaſt in all ages. See Parkhurſt in voce תלה; and מעון an inhabited place; but the laſt is dubious.

This

This is their order, and if the firſt agrees with the firſt, and the two laſt can be diſcovered to correſpond mutually, the ſecond may be conſidered as the unknown quantity we are ſearching for. Permit me, then, to read Kana-Diſa [188] for Kana-Sida; and I find Kienk-Diſa, the river of Dis, Tiz, or Tidsj. This is the Tyſa of Ptolemy, the Teſa or Teiſa of Marcian, the Teiz of Dalrymple, and the Tearſa of Porter. All theſe different modes of writing are expreſſive of a town ſituated in the bay of Churbar, celebrated by Al Edriſi [189] for its commerce with Keiſh, an iſland in the Gulph, and Oman in Arabia, both ſufficiently noticed by Cheref-eddin and other Oriental geographers. Otter brings the Kiour-Kienk, or ſalt river [190], into this bay; and unleſs Sida ſhall be found to expreſs *ſalt*, there can be little doubt but that it is a tranſpoſition from Diſa or Diz. By a ſimilar proceſs the modern Tanka may be found in the Kanaté of Arrian, and the Samy-Kadé of Ptolemy; for Kanat and Kade come by one method from Kienk and Samy-Daké, Danke and Tanka by another: if, therefore, upon theſe grounds Kana-Sida correſponds with Tiz or Churbar, and Kanaté with Samy-Kadé or Tanka, Talmena conſequently anſwers to the Kandriakes of Ptolemy, and the ſeries in both authors is conſiſtent. It is not neceſſary to inſiſt on this reaſoning as indiſputable; but if we find the initial Kan thrice repeated in ſucceſſion, and three rivers locally agreeing with this, and ſtill preſerving the traces of the adjunct, it is ſome light gained in a region of obſcurity, and may lead to the juſt diſtribution of the ſtations on the coaſt, if it ſhould ever be viſited

[188] The licence requeſted for theſe tranſpoſitions is ſtated fully hereafter at Agris.

[189] P. 58. Taiz; a ſmall but populous city. Eſt urbs parva, celebris tamen et populoſa.

[190] Roud-Chiour the ſalt river, near Kunk in Loriſtan; and Kunk itſelf is related to Kienk. In theſe countries where the ſoil is ſalt or nitrous, there are ſalt rivers every where. See Marco Polo Ramuſio, tom. ii. p. 8.

again. More rivers than theſe three [191] I cannot diſtinguiſh in Otter [192]; for his Kiourkies and Souringuiour are only the ſame, or parts of the ſame ſtream, Kiour-Kienk; and what their courſe may be inland is of no conſideration to the journal. Otter's authorities, in this reſpect, are much embarraſſed; and I am not without ſuſpicion that he has miſtaken Kié for the capital inſtead of Kidge: I once thought them both the ſame; but Al Edriſi writes [193] Kia and Kir as diſtinct places, and Kir he ſeems to eſtimate as the principal city; if ſo, he writes Kir for Kirge, and Kirge is Kidge. All the geography I am acquainted with makes Kidge the capital of the province, called from hence Kidge or Kutch Mekran in the Ayeen Akbari; and Kedge, Gedge, or Gedroſia, by the ancient hiſtorians: for Mekran is the country related to the Mehran or Indus; and Kutch Mekran implies the weſtern ſide of the Indus towards Kutch or Kidge. This is a point, indeed, not neceſſary to diſcuſs, as it is not connected with the voyage; neither is it inſiſted on farther than as the ſuſpicion of a miſtake. Otter has made a ſimilar lapſe in regard to Ahwaz in Suſiana, and this gives an additional reaſon for ſuppoſing that he may, in this province alſo, have been miſled by the fluctuation of Oriental orthography.

Having now obtained a probable ſolution of theſe difficulties, and found three rivers which may afford the means of reconciling Arrian with Ptolemy, and both with modern geography, it remains to conduct the fleet along the coaſt to the three following ſtations of Tal-

[191] There is a fourth, Makeſhid, to the weſt; of which ſee *infra*.

[192] Otter, tom. i. p. 408.

[193] Nub. Geog. p. 56.

mena,

mena, Kanafida, and Kanaté, with a fourth between the two laſt, which is nameleſs, and without any diſtance ſpecified.

TALMENA. Dec. 10. Seventieth day. Twenty-ſixth ſtation. KANDRIAKES and HUDRIAKES of Ptolemy.

The fleet weighed from Bageia at midnight [194], and proceeded a thouſand ſtadia, ſixty-two miles and an half to Talmena. This diſtance, if taken from Noa Point, is not greatly in exceſs, but this aſſumption the tranſactions recorded do not authoriſe; and there is reaſon to apprehend that the error of numbers lies ſomewhere about Guttar Bay, or Kuiza. Whatever it may be, the ſinking of it here relieves the remainder of the courſe to Badis; and we might build ſomething on the four hundred ſtadia of Marcian to diminiſh the exceſs, if we could find their proportion with other ſtations; that, unfortunately, is impoſſible. No circumſtances relating to Talmena are recorded in the journal, but that it was a ſafe harbour; and this, at leaſt, has nothing diſcordant with the ſtation allotted to it at the mouth of Ptolemy's Kandriakes, the Kié-Kenk (Kié river) of Oriental geography. Nothing in Otter's account forbids the iſſue of this ſtream to be fixed between Guttar and Churbar Bay, and nearer to the latter than the former. We muſt not paſs this place, however, without obſerving that Hudrakes, the pilot of Nearchus, ſeems to derive his name from this Hudriakes. It is ſaid expreſsly that he was a Gadroſian; and if we are right in aſſuming this ſtream for the river of Kidge, it is a native of Kidge who is now on board. May we not lament that the brief narrative of the journal has ſuppreſſed this circumſtance? Or will it afford ground for an argument, that the ſilence of the journal upon this head furniſhes matter againſt the arrangement? Either way, this muſt be left to its fate, that we may return to the proſecution of the voyage.

[194] Again at night.

From

From Talmena, the diſtance to Kanaſida is eſtimated at twenty-five miles, a ſpace not greatly in exceſs; and Kana-Diſa has been interpreted the river at Tiz or Tidsj, which Otter calls the Kiour-Kienk, or ſalt river. The remembrance of the town ſtill exiſts in the bay of Churbar, and the cape at the entrance is ſtill called Tiz-mee, by the ſame analogy as Cape Paſſence or Poſſem [195] is ſtyled Poſ-mee: is it not remarkable that two navigators, at the diſtance of ſo many centuries as Nearchus and Commodore Robinſon, ſhould find the ſame place in ruins? Nearchus does not mention a river here, and probably did not advance far enough into the bay to ſee it; but they found a well ready dug, which ſaved the trouble of opening the ſands, and the wild palm tree, from which they took the tender ſhoots [196] of the head to ſupport life; ſo that the little ſupply of corn they had procured at Guttar Bay could have relieved only a momentary want. The plan of this bay, with its double curve, is given in the Chart, No. I. and I am diſappointed in finding no river marked here by our Engliſh navigators, in which they agree too well with Nearchus. My authority for bringing the ſalt river into this bay is Otter, whom d'Anville interprets agreeably to my ſuppoſition: but proof is ſtill wanting, and the initial Kana is the only evidence Nearchus affords that the ſtream exiſts in this place.

KANASIDA, or KANA-DISA. Dec. 11. Seventy-firſt day. Twenty-ſeventh ſtation. TYZA of Ptolemy.

[195] Paſſaum. Portug.

[196] Strabo mentions, p. 722, that the army of Alexander, in paſſing the deſert of Gadroſia, was preſerved from famine by the ſame means. Ἀπὸ δὲ τῶν φοινίκων ἦν ἡ σωτηρία, τῇ τε καρπῇ καὶ τῇ ἐγκεφαλῷ. According to the tranſlation, Fructus et cerebrum ſaluti fuerunt. So Xenophon, Anab. lib. ii. c. 3. ſeems to uſe ἐγκέφαλος for a part of the fruit: but I think in this paſſage of Arrian, τέτων τὰς ἐγκεφάλως κόπτοντες, ſeems to imply cutting the tender head of the plant, rather than the fruit; for fruit at this ſeaſon there could be none, though I muſt recall the conjecture in note 171; for I now find the date is an autumn fruit, and ſpecified as ripe in October by Coſmas Indicopl. Tab. p. 338. Montfauc. N. Coll. Patrum. Strabo mentions the preſerved date: Οἱ Γεδρωσίοι φυλάττουσι τὸν ἰπακύσιον καρπὸν ἰς ἔτη πλείω ταμιευόμενοι. P. 726.

At the time Churbar was viſited by Commodore Robinſon's little ſquadron, the natives were deſirous of the Engliſh ſettling at Tiz, where they ſhewed him the ruins of a Portugueſe fort, and informed him that Churbar had been a place of conſiderable trade in ghee [197], ſilk, twiled cotton, and ſhawls, till a ſix years' drought had reduced the land to a deſert [198]. Water, however, was eaſily procured here, and good; with ſheep, goats, and vegetables. Their horſes alſo were of a fine breed; and while the Engliſh lay in the bay, there were two veſſels in the harbour ſent by Hyder Ali to take advantage of the market depreſſed by the drought, and to ſeek a ſupply for his cavalry even in this deſert region of the Mekran. Such was the attention of that extraordinary man, whoſe ſpirit ſoared as high as Alexander's, and whoſe conqueſts might have been as rapid, if, like Alexander, he had met with no oppoſition but from the native powers of India. The inhabitants of Churbar informed the Engliſh, that there was a large and extenſive city properly walled round, about a week's journey from the coaſt. This intelligence agrees well with Otter's ſite of Kié [199], and argues ſomething for the river ſuppoſed to fall in here, or in the neighbourhood; for in this tract there can hardly be a city unleſs where there is a river to ſupply it.

From Kanaſida, Nearchus proceeded four-and-twenty hours without intermiſſion to a deſert coaſt, where he was obliged to anchor at ſome diſtance from the ſhore, as the diſtreſs of the people was now riſen to ſuch a height, that, if he had ſuffered them to land, he had

[197] Half liquid butter.

[198] Lieutenant Porter, p. 8.

[199] I am more perſuaded that it is the ſame, by Al Edriſi's giving five days diſtance from Tiz to Kir, agreeing ſufficiently with the week's journey of Porter. Nub. Geog. p. 58.

reaſon

reaſon to ſuſpect that they would not have returned on board. This deſert ſhore has neither name or diſtance, and the day and night allotted to the courſe, as well as the number of ſtadia given to Kanaté, the following ſtation, apparently comprehend both the ſpace and time to that place. A day, however, will be allowed here in conformity to the uſage I have adopted, but the meaſure will be carried to Kanaté. The point I would aſſume for this anchorage is Godeim, at the weſtern extremity of the ſecond curve in Churbar Bay. Godeim[200] is a headland very level along the top, with ſteep cliffs next the ſea; from whence Cœlat or Kalat is ſeen, which is a remarkable object, and ſomewhat ſhort of which is the mouth of the Tanka Creek. It is obſervable, that headlands of this kind frequently attract the fleet to an anchorage; but whether for the purpoſe of ſurveying the coaſt before doubling them, or any other reaſon, does not appear.

A DESERT SHORE. Dec. 12. Seventy-ſecond day. Twenty-eighth ſtation.

This ſtream, therefore, naturally correſponds with the Kanaté of the journal; and if Kalat had been at the Tanka, Kanat-é might have been thought not unconnected with it. Seven hundred and fifty ſtadia, or forty-ſeven miles, anſwer almoſt exactly from the eaſtern point of Churbar Bay [Kanaſida] to the Tanka; and as there is nothing in Arrian to forbid the application of this meaſure to the two days' courſe, I ſhall conſider this as a ſtation aſcertained. It has already been ſhewn how the Kanaté of Arrian and the Kadé of Ptolemy are allied, as well as the connection of both with Daké, the Danké or Tanka at this place. This connection is verified by the copies of Ptolemy giving Daké[201] or Kadé indifferently, which

KANATE. Dec. 13. Seventy-third day. Twenty-ninth ſtation.

[200] Lieutenant Porter, p. 9. He ſays, Godeim looks like an iſland till you are near it; and d'Anville has an iſland here. May not this be the Pola of Ptolemy?

[201] Ptolemy, p. 157. Samy-kadé, interp. Samy-daké, *Samy-daka*. Samy-dokhes river, interp. *Samy-dakhia*. And ſo Hudſon Marciani Perip. p. 22. Samy-daké, Samy-kadé, Samy-dokhés, noting the fluctuation of Ptolemy.

is not a various reading, but derived from the fluctuation of Oriental orthography. Whether this will be admitted as proof of the identity I cannot ſay, but ſuch it appears to me; and on a coaſt involved in ſo much obſcurity, every approximation to probability is clear gain.

The journal aſſigns no attributes to Kanaté but that of an open ſhore, with the mention of ſome ſhallow watercourſes, intended poſſibly for the purpoſes of agriculture, and the bettering of an arid ſoil. Porter calls the Tanka a ſmall river, and the artificial cuts [202] of Arrian beſpeak a river alſo; for on this coaſt, wherever there is not a river, no ſuch circumſtance could occur. It would be well if this ſtream could be identified with any of thoſe ſpecified by Otter; the Nehenk is the one I looked to, but he carries that far to the eaſtward, and ſo is he interpreted by d'Anville: his Kiour-kies is that neareſt the ſite of the Tanka, but he joins the Kiour-kies with the Kiour-kienk, and brings them united to Tiz. There is reaſon to ſuſpect that both are the ſame; for Kiour-kienk is the ſalt river, and Kiour-kies is the ſalt [river] of Kié. We muſt abandon, therefore, the inland courſe of theſe ſtreams for want of information, and content ourſelves with the iſſues we find upon the coaſt. The mouth of the Tanka in this place is indiſputable; for it is the Tanka-Banka [203] of Reſſende; and the Portugueſe had a fort about three miles up the ſtream, the ruins of which, with a Bazar and wells, were reported to Lieutenant Porter when he was on the ſpot with Commodore Robinſon [204]. To this river a long courſe inland is aſſigned by de la Rochette, on what authority I know not; but it can hardly riſe beyond the mountains, as he makes it, if we may judge by the ſize and ſhallowneſs of its mouth.

[202] Artificial cuts; διώρυχες βραχεῖαι. Arrian, p. 343.

[203] White River? from Bianca Ital. Portug.

[204] Lieutenant Porter, p. 9.

It does not appear by the journal that the people were ſuffered to land at Kanaté; neither is there any mention made of a ſupply [205] being procured. A ſufficient reaſon for concluding, that the courſe was hurried on faſter than the time I have allotted, and for which due allowance will be made.

Upon this ground I aſſign another day for the paſſage to Trœſi; the courſe made good was fifty miles; and here, at laſt, a ſcanty ſupply of proviſions was obtained. The place preſented ſeveral mean and wretched villages, deſerted by the inhabitants upon the approach of the fleet; but a ſmall quantity of corn was found, with ſome dried [206] dates, and theſe, with the fleſh of ſeven camels which the natives had not carried off upon their flight, afforded a repaſt, of which perhaps nothing but the utter diſtreſs of the people could have induced them to partake. Whether the Greeks had any particular averſion to camel's fleſh, more than what is common to all mankind, who nauſeate what they are not uſed to conſider as food, I have not diſcovered; but it is evident that Nearchus means to give this inſtance of famine in the extreme, ſuch as we at preſent underſtand by the eating of horſe-fleſh in a beſieged town: I feel indeed ſome concern for the friends with whom I have ſo long ſailed, that I do not hear of their feaſting on the turtle with which this coaſt abounds. Porter mentions the turtle in great abundance at Aſhtola; and Marcian fixes a tribe of Khelonophagi, or turtle-eaters, in the neighbourhood of the ſpot, where the fleet now is: but the Greeks ſeem to have conſidered men reduced to live

TROIS. TROISI. Dec. 14. Seventy-fourth day. Thirtieth ſtation.

[205] All bread-food was certainly exhauſted. If any thing was on board to ſupport life, it could only be the fiſh-paſte procured near Kyiza.

[206] Βαλάνοις ἐκ φοινίκων. The copiouſneſs of the Greek language did not ſupply a term for this fruit. It is literally the acorn of the palm.

wholly

wholly upon fiſh, turtle, or camels, as ſtamped with barbariſm; and the terms expreſſive of theſe tribes are uſed always as indications of contempt or averſion.

I do not here mean to draw a concluſion, but I cannot help noticing it as a remarkable coincidence, that Nearchus ſhould find a ſupply of dates at this ſtation, and that Porter ſhould ſay[207], "Between the "Tanka and Muckſa, we found the land bear a better face than any "we had hitherto ſeen, as the vallies in moſt places were full of "date trees." If this does not apply to the ſpot, it is at leaſt deſcriptive of the coaſt.

What the name of this ſtation is, or where it is ſituated, is no eaſy matter to determine; for Arrian's uſage of the word leads properly to no diſtinction of it in a Greek form. He writes Troiſin, which, if plural, leaves great room to doubt of its origin; and Gronovius is diſpoſed to read Taoi. In point of order, it correſponds with the Paſis of Marcian, which Ptolemy writes Maſis, Magis, Magida, and Mazinda; and which Marcian ſeems to fix at a river[208] called Sarus and Salarus: but this does not admit of proof, for Ptolemy's Magis is five-and-thirty miles to the eaſtward of his Sarus. This is of ſome conſequence to note, becauſe by theſe means I may take his Magis previous to the cape which I aſſume for Dagaſira; and carry his Sarus weſtward to a creek marked in Commodore Robinſon's chart, which anſwers to the Iſkim of d'Anville[209], de la Rochette, and Reſſende[210]. So far Nearchus correſponds with Ptolemy's poſition of Magis, that he intimates no river at Trœſi.

[207] Memoir, p. 9.

[208] The reaſon for aſſerting this is, that Marcian gives no diſtance between Paſis and the Salarus.

[209] It is very ill defined in all.

[210] Reſſende writes Iſqui. Iſk, Eſk, and Uſk are names of rivers in our own country, and all ſignify water.

Upon

Upon finding Makichid mentioned as the name of a river in Mekran, by Otter, I thought I had diſcovered the clue; for the corruption or fluctuation of the text in the three authors would have juſtified any reading in Arrian: but if Otter's diſpoſition of the Makichid is juſt, it is far to the eaſtward, and can have no relation to the Magida of Ptolemy.

Out of the uncertainty cauſed by theſe various authorities, I can extricate myſelf only by adhering to the meaſures of Arrian, which, with allowance for the exceſs attending the whole of this coaſt, enable me to place Trœſi ſhort of the cape which ſucceeds firſt weſtward of the Tanka, and to fix on that cape for the Dagaſira of Arrian. The reaſon for this will be aſſigned hereafter; but I ſhall firſt conduct the fleet to Badis, and then take a review of the coaſt.

From Trœſi to Dagaſira the courſe was ſhort of nineteen miles. The fleet ſailed at day-break[211]; and as this is the firſt inſtance ſince Hydrakes was on board, it may not be improper to obſerve, that if we fix the hour between ſix and ſeven in the morning, the land breeze would hold good for an hour or more to ſecure an offing. The ſhortneſs of the courſe was determined either by this circumſtance, or by another which occurs frequently, the appearance of a cape. This, indeed, is not noticed by Arrian; but Dah-Geſira[212]

DAGASIRA. Dec. 15. Seventy-fifth day. Thirty-firſt ſtation.

[211] ἀπὸ τὴν ἕω. Sub aurora, before the ſun roſe. On all other occaſions from Moſarna, failing in the night is mentioned, or the time is omitted altogether.

[212] In all etymology, I ſpeak, ſubject to the correction of thoſe who underſtand the language, or have been upon the coaſt: but I have before ſuggeſted that Dahh or Dahr might ſignify a *head*, and Bah or Bahr, in contradiſtinction, the interior part, or *bay*. I ſhall now add that Bahr ſignifies a *ſea*, as Bahr-ein the *two ſeas*; Bahr Nedsjef, the dry *ſea* or *lake* at Meſchid Ali. *Niebuhr*: but I ought not to omit that another ſenſe of Bar occurs in Montfaucon's Preface to Coſmas Indicopleuſtes, where he ſays it ſignifies a *continent*, as in Zangue-bar, Mala-bar, &c. In this ſenſe, Bar-Gazira is literally Χερσονησος, a Cherſoneſe, ſuch as Guzerat and Arraba and Guadel are. This, though contrary to my own hypotheſis, I think it right to ſtate. Perhaps if not the true etymology, it may lead to the diſcovery of truth. See Montfaucon N. Collectio Pat. Præfat. ix. Coſmas, p. 132.

expreſſes.

expreſſes the head of a peninſula or promontory, and there are two capes between the Tanka and Muckſa. From the diſtance between Dagaſira and Badis, I prefer that which is the more eaſtern. One circumſtance only is noticed here, that of meeting with a few ſtraggling natives, from whom it does not appear that any aſſiſtance was obtained. Unimportant as this may appear, it preſerves a picture of the coaſt; and the habits of the natives are the ſame at the diſtance of twenty centuries. "Every where along the coaſt," ſays Porter, "there is a family here and there which keeps a few "goats and camels, and ſubſiſts upon their milk [213]." And again, at Muckſa, he adds, "A few miſerable people live on this deſolate "place on the ſhell-fiſh they pick up at low water, without any "grain or dates, unleſs at the time of year they are in ſeaſon." Such were the wretched inhabitants Nearchus found here; and Gronovius is almoſt angry that he honours them with the title of Nomades (herdſmen wandering in ſearch of paſture); he inſiſts upon it, that they are mere vagabonds; but Porter's camels and goats ſeem to juſtify a better ſenſe of the expreſſion. In one view, their miſery ſeems rather upon the increaſe; for if they are not provident enough to preſerve the date, they are ſunk below the condition of their anceſtors. Strabo mentions the fruit in its dry ſtate, and Nearchus evidently procured dried fruit at Trœſi. The inhabitants are called Brodies by Porter; but Niebuhr conſiders them all as Belootches, quite to Jaſk [214], and connects them with the Arabs on the oppoſite ſide of the gulph. If this connection could be eſtabliſhed, it would not be impoſſible to extend it through the whole Mekran, and to unite the Arabitæ on the Arabis, with the

[213] Porter, p. 8.

[214] There is a prince of Jaſk whoſe romantic hiſtory makes a figure in the reign of Abbas the Second. Niebuhr ſays he was a Balludsj. See Tavernier.

Arabs

Arabs of Oman [215]. Neither is it unreaſonable to ſuppoſe that the Arabic names on the coaſt are a proof of this; for as the Arabs were the earlieſt navigators of the Indian ocean, ſo were they better qualified to bear the hardſhips of the deſert than any other nation; and if a life of rapine is characteriſtic of the Arabians, the Arabitæ or Belootches, in this reſpect, have in all ages maintained a perfect claim to conſanguinity.

The diſtreſs of the people, and the impoſſibility of procuring a ſupply at Dagaſira, urged a haſty departure of the fleet. They ſailed in the evening, and continuing their courſe all that night and the following day without intermiſſion, they reached, after a ſtretch of almoſt ſixty-nine miles, a promontory projecting far out into the ſea, with a ſurf beating upon it to a great extent. This they did not dare to approach, or to double the cape while it was dark. They rode at anchor conſequently during the night, as near ſhore as the ſurf would permit, and the following morning got round into a bay, where they found the town of Badis, and where they were at laſt relieved from the miſeries they had experienced on this deſolate coaſt. This promontory is the boundary between the country of the Ichthyophagi and Karmania; and at Badis they found corn, vines, and fruit-trees of every kind except the olive, a town inhabited, and the inhabitants ready to relieve their wants.

BADIS. Two days. Dec. 17. Seventy-ſeventh day. Thirty-third ſtation.

[215] There is an Ommana, mentioned by Ptolemy and Marcian, to the weſtward of Paſis, (ſee the Table, p 220.) and placed, by the author of the Periplus, ſix days' ſail eaſt from the gulph of Perſia. (See Peripl. Maris Erythræi, p. 20. Hudſon Geog. Minores.) The author mentions the connection of this Ommana with Kana in Arabia, and Barygaza in India, as a kind of central emporium. The place probably did not exiſt in the time of Nearchus, but ſeems to owe its riſe to the extenſion of the Arabian commerce towards the eaſt. The name intimates that it was a colony of Arabians from Oman, the immediate province on the weſt of the gulph, always celebrated for its commercial ſpirit, and containing Muſcat, ſtill the greateſt Arabian mart on the ocean, which is the Moſcha of the Periplus. See Niebuhr's map of Oman.

And now having conducted my friends into a place of ſafety, I muſt return to ſurvey the coaſt. The firſt point neceſſary to fix is Badis. Badis I place at the cape called Muckſa by Robinſon and Porter, and which will preſently appear to be the real Jaſk. The name is written Kan-Theatis, Kan-Thapis, Kan-Eatis, and Kau-Ratis, by Ptolemy and Marcian; and if we prefix Kan to the Badis of Arrian, it bears no little reſemblance to every one of theſe variations. Kau-Ratis[216], in conformity to the other three, is neceſſarily Kan-Ratis[217]; and this differs ſo little in the form of the Greek letters, that there is no violence uſed in aſſerting, that Kan-Batis and Kan-Ratis are the ſame. Now Kan marks a *river*, and Ba-dis, if my conjectures are right, a *bay:* both theſe circumſtances are applicable to the ſpot, for there is a river five miles within this cape; and at this river I conclude the fleet anchored on the morning of the ſeventeenth.

The fluctuating orthography of the Greek text will juſtify ſtill greater liberties than I have taken; and when it is conſidered how much the native names of every coaſt vary in modern charts, how difficult it is to write foreign ſounds received by the ear, and how ſeldom two perſons expreſs the ſame ſound by the ſame letters, there will appear no extraordinary licence in the changes adopted upon the preſent occaſion. I never wiſh to lay more ſtreſs on theſe conjectural criticiſms than they deſerve; and if this explication had ſtood alone, I ſhould think it of little weight; but if it ſhall be found to accord with the nature of the coaſt, with the beſt digeſtion

[216] Καυρατιδος, in Cod. Herv. Hudſon. Marciani Periplus, p. 22. Καπατιδος in the text.

[217] The difference in Greek letters, between Καυρατις and Καυρατις, is ſo evaneſcent, that the miſtake is natural.

I only go a ſtep farther, and read in Marcian, Καν-βατις for Καν-ρατις; or, in capitals, ΚΑΝ-ΒΑΤΙΣ for ΚΑΝ-ΡΑΤΙΣ.

of the meaſures attainable, and with the general courſe of the fleet, even thoſe who ſet little value upon etymology will allow it to contribute its due ſhare to the maſs of evidence which may be procured from other quarters.

In order to fix Badis geographically, it is neceſſary to encroach on the limits of Karmania, and to find in the firſt place what is the Karpella of Ptolemy; for as d'Anville, by conceiving that Karpella and Badis are the ſame, has confuſed the account of the ancient hiſtorians, ſo is it a moſt extraordinary coincidence, that modern charts and modern navigators have varied equally in fixing the proper ſite of Cape Jaſk. It happens, that upon the approach to the gulph of Perſia there are two capes about twenty-ſeven miles aſunder; the eaſternmoſt of which is the Cape Muckſa of Robinſon, Porter, &c. and the weſternmoſt their Cape Jaſk. Here is the origin of that embarraſſment which involves the whole queſtion in obſcurity, for in reality Muckſa is the true Jaſk, and their Jaſk is Cape Bombareek. It is this Bombareek which is the Karpella of Ptolemy, and conſequently when d'Anville brings Badis to this point, he fixes it twenty-ſeven miles farther to the weſt than it really is.

I ſhall ſettle the ancient geography firſt; I ſhall then proceed to conſider the miſtake of the moderns, and give the reaſons for pronouncing it an error with ſo much confidence as I have done.

Ptolemy's ſeries comes down the gulph of Perſia to Karpella. This lays me under the neceſſity of going ſtill farther out of the province I am treating of; but at the ſame time it gives me an opportunity of identifying Karpella with Bombareek to a demonſtration. Armozon is a cape oppoſite to Muſſendon, on the

Arabian ſhore, where is the narroweſt part of the ſtreight at the entrance of the gulph; between which and Karpella are two remarkable eminences, one called Strongylus, or the Round Mountain, by Ptolemy, near Armozon, and the other Karpella, from which the promontory derives its name. The former of theſe is the modern Elbourz, which ſignifies a fire tower of the Parſeés; the latter is the Bombareek rock, which communicates its title to Cape Bombareek, as Karpella did of old. It is true that Strongylus is not enumerated in the ſeries, but ſtands at the foot of the account; its latitude, however, marks its place.

Armozon,	-	-	23° 40′ 0″.
Strongylus,	-	-	23° 0′ 0″.
Karpella,	-	-	22° 30′ 0″.

The inaccuracy [218] of theſe latitudes is of no importance; but let them be true or erroneous, they equally prove that Strongylus is between the two capes: and as there is not a third, Karpella muſt be Bombareek. The Bombareek rock is in reality ſix or ſeven miles north of the cape, and upwards of two miles from the ſhore; but as the land is low, it makes a conſpicuous figure from *a perforation at its top*, and appears, when the land is not ſeen, like an iſland [219].

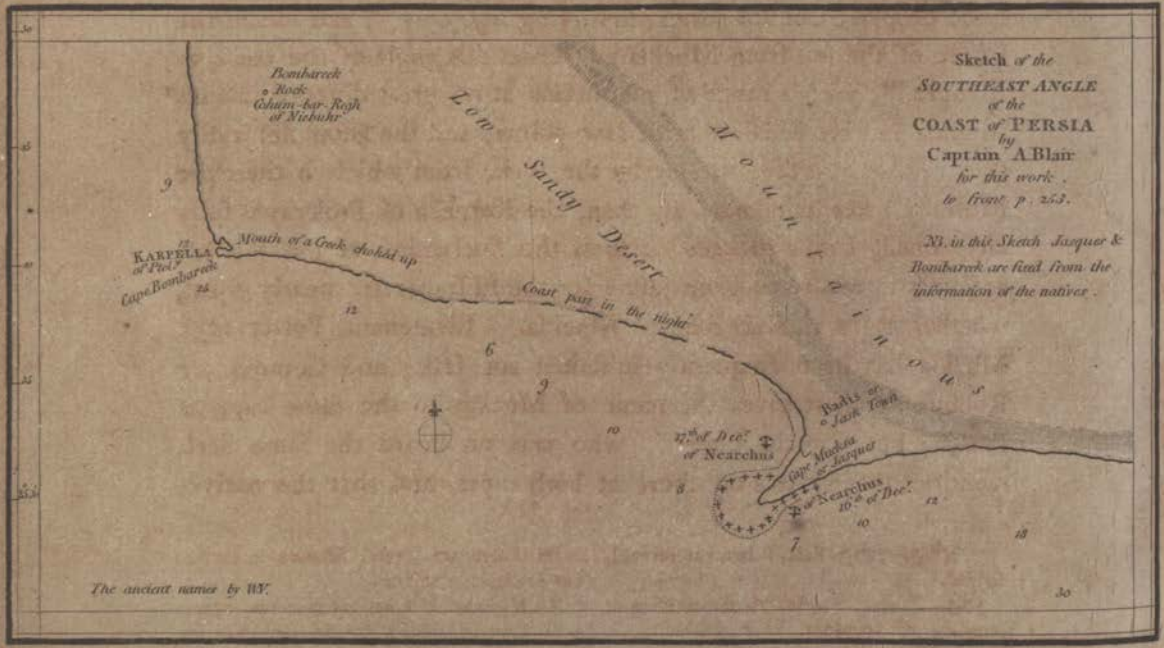
Now it is very remarkable that Kar [220], in Hebrew, ſignifies *a hole through which the white light appears*; and if I could find the means of aſcertaining a ſimilar ſenſe of this word in Arabic, Perſic,

[218] Karpella is really in lat. 25° 42′ 30″, or 25° 40′.

[219] It is from this deception of mariners that Mr. d'Anville has an iſland here.

[220] כר, Kar. Alſo a hole or ſlit in the lid of a box, for admitting money.

or



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or Pehlvi, I could ſhew that Pella might be allied to three [221] Hebrew origins, all expreſſive of diviſion or ſeparation. Whether this idea would be applicable to the cleft of the rock itſelf, to the termination of the province, or to the diviſion of the two ſeas, muſt be left as a matter of doubt. In any ſenſe, it contributes to identify Karpella with Bombareek.

Bombareek is written Combarick [222], and, as Niebuhr informs us, more properly Cohum-barick, ſignifying *looſe ſand* [223]; and ſuch is the nature of the ſoil from Muckſa all round this angle of the coaſt to Elbourz [224], with a range of mountains at no great diſtance inland. Muckſa and Karpella are both low points, and the latter not eaſily diſcoverable at a diſtance but by the rock, from which it therefore naturally takes its name. If, then, the Karpella of Ptolemy is fully aſcertained, I may proceed to ſhew the fluctuation of the modern accounts in regard to Cape Jaſk; for the ſuffrages are nearly equal, whether it is at Karpella or Muckſa. Lieutenant Porter ſays, Muckſa has been frequently miſtaken for Jaſk; and Commodore Robinſon's chart gives the name of Muckſa to the ſame cape as Porter; but Captain Blair [225], who was on board the ſame fleet, mentions that he was on ſhore at both capes, and that the natives

[221] פלא, פלח, Pala, Palah, cut, ſevered, divided.

פלג, Palag. Applied to the dividing or bounding of countries. See Parkhurſt in voce. All have properly Ph.

[222] Combarrack, Gombarrat, Mumbarack, &c. &c.

[223] Pietro della Vallé writes, *Sable delié*.

Rick, or rather Regh, will appear as a component part of Bunder-Regh, Regh-ian, &c.

[224] There are ſeveral Elbourz in Perſia; one particularly at Yezd.

[225] Niebuhr, if I am not miſtaken, agrees with Captain Blair; for he ſays Kohum-bareck is three three-fourths German miles north-weſt of Jaſk: but this is not certain; for his text ſtands, *à l'eſt vers le nord*. I read, à l'*oueſt* vers le nord, becauſe north-eaſt agrees neither with one Jaſk or the other, tom. i. p. 72.

uniformly

uniformly agreed in calling the eaſtern cape, Jaſk, and the weſtern, Bombareek: now what is the name of any place but that which the natives give it? Captain Blair, upon a perſonal interview, favoured me with a variety of circumſtances relating to this coaſt; and, with a liberality that does credit to the officer and navigator, drew up a ſketch of the topography, from materials in his poſſeſſion collected on the ſpot, which I have cauſed to be engraved, and inſerted in this work. In this ſketch, his Cape Jaſk is the eaſtern promontory, and his Bombareek the weſtern; and in this he is ſupported by Cutler and Pietro della Vallé [226]; on whoſe authority I rely, notwithſtanding the evidence on the contrary ſide is highly reſpectable.

In the Chart, No. II. is introduced a plan of the bay formed by the eaſtern cape, from a manuſcript of Baffin and Sommerſon preſerved in the Bodleian Library, and publiſhed by Mr. Dalrymple. In this plan the town of Jaſk is given, and a river [227] five miles from the cape, near which I ſuppoſe Nearchus to have anchored, and upon which the town of Badis poſſibly ſtood in that age. This chart, it

[226] Nous doublâmes le cap, qu'ils appellent en Perſan Combarick, c'eſt à dire, *ſable delié*, et la nuit ſuivante nous laiſſâmes derriere nous, la pointe de Giaſk. Piet. della Vallé, tom. vi. p. 251.

This language manifeſtly marks the ſame Combarick and the ſame Jaſk as Captain Blair's; and Pietro della Vallé is the beſt of evidence, as he was in the neighbourhood of Ormuz during the ſiege, and makes frequent mention of the Engliſh fleet in Jaſk road.

[227] "To the northward of Cape Jaſques "comes in a river, diſtant about five miles. "Any veſſel, not drawing above ten or eleven "feet, may run into it as a good haven. It "is as ſecure as a wet dock." N. Cutler's coaſting pilot in Dalrymple's Collection of Memoirs, p. 83. See, in the ſame Collection, J. Thornton, p. 69. Both copy a note of John Hatch, maſter of the Bee, affixed to Baffin's plan. The river is marked in the copy of that Chart engraved in No. II. with the town of Jaſk to the north. I ſuppoſe Nearchus to have anchored near the mouth of the river, and nothing forbids the exiſtence of a town on that ſtream two thouſand years ago.

is true, does not ſtyle the eaſtern cape, Jaſk; but it calls the bay, Jaſk Road: the town, however, being cloſe upon it, naturally communicates its name to the bay and cape neareſt, rather than to the weſtern point, which is at twenty-ſeven miles diſtance. This is the Jaſk road in which the Engliſh fleet lay in the year one thouſand ſix hundred and nineteen, when it came to aſſiſt the Perſians in the reduction of Ormuz; and, during the north-eaſtern monſoon, it is as ſafe as a harbour. All this evidence collected, with the information obtained by Captain Blair on the ſpot, ſets the queſtion ſo far at reſt, that I ſhall in future call the eaſtern point regularly Jaſk or Badis, and the weſtern, Bombareek or Karpella.

The miſtake committed by d'Anville, in ſuppoſing Karpella and Badis to be the ſame, is founded upon, and ſupported by another error; for he read in the tranſlation of Arrian, that there was a rock [228] at this point, and, in order to eſtabliſh the identity of Badis with Karpella, he went ſix or eight miles north to fetch the Bombareek rock to the cape. Unfortunately for this ſyſtem, the Greek text ſays nothing of a *rock*, but uſes that term [229], which I interpret *ſurf* or *breakers*, and which, with Gronovius to ſupport me, I can maintain againſt all the tranſlators. Let the reader refer to Captain Blair's ſketch, and he will ſee breakers to a great extent at Jaſk, but

[228] Memoir, p. 140.

Il parle d'un rocher eſcarpé ſur cette côte; or la terre du cap eſt aſſez baſſe, mais l'anſe qui lui ſuccede eſt terminée par un rocher blanc, fort pres de terre, eſcarpé, plat ſur le ſommet, et qu'on prendroit de loin pour une fortereſſe; ſon nom eſt Bombareca.

In this ſhort account there are four inaccuracies. 1. There is no bay (Anſe), but only a creek. 2. The rock is not at the termination of this creek. 3. It is not *near* the land (pres de terre), but upon land. 4. Its diſtance, though not here ſpecified, is made to appear much too near Karpella. Added to theſe, the principal feature of Bombareek, its perforation, is omitted. All theſe errors are incurred, to find a rock at the cape, where there is no rock, except in the tranſlation of Vulcanius: for it is Vulcanius *qui parle d'un rocher eſcarpé*, and not Arrian.

[229] ῥηχίη. See this fully ſtated above.

none

none at Bombareek; and when he is aſſured that theſe were inſerted from this officer's own materials, and not previouſly concerted to anſwer my purpoſe, let him judge for himſelf concerning the correctneſs of Arrian, and the exact picture of the coaſt he gives, as it appears at the preſent hour.

It will afford no little pleaſure to conſult the draught, and to compare it with the text of Arrian; to view the right angle at Bombareek, and the acute projection of Jaſk; to obſerve Bombareek without breakers, and Jaſk encircled with them all round, and this to a conſiderable diſtance from the point. Afterwards, let us refer to the teſtimony of Arrian, which is repeated twice, and is contained in the following words: "They anchored," ſays he, "not cloſe to the ſhore, but rode in the open ſea, upon account of "the *ſurf*, which was of great extent." A digreſſion then enſues, comprehending an account of the natives, and ſome general circumſtances of the voyage; after which, he reſumes the narrative, with particulars of the ſame tenor. "As ſoon as the fleet reached "the boundary between the coaſt of the Ichthyophagi and Kar-"mania, they rode at anchor at a diſtance from the ſhore becauſe "a violent ſurf [230] *beat along the line of the coaſt*, and extended out a

[230] So I render παριτέτατο.

Ὁρμίζονται δὲ ὑ πρὸς τῇ γῇ ἠχίῃ γὰρ ἦν ἐπὶ πολλὸν ἀνέχουσα, ἀλλὰ μετέωροι ἐπ' ἀγκυρέων, p. 344.

Neque vero ad terram appulerunt, erant enim frequentes ad littus *ſcopuli*, ſed jactis in ſalo anchoris ſubſtiterunt.

Ὡς δὲ ἐς τὴν Καρμανίην ἀπὸ τῶν Ἰχθυοφάγων κατῆρεν ὁ Στρατὸς, ἐνταῦθα ἵνα πρῶτον τῆς Καρμανίης ἐρμίσαντο, ἐπ' ἀγκυρέων ἐσάλευσαν, ὅτι ἠχίη παρετέτατο ἐς τὸ πέλαγος τρηχείη, p. 347.

Poſtquam vero ex Ichthyophagis in Carmaniam perventum eſt, primùm anchoris in ſalo jactis conſtiterunt, quod aſpera in mare *petra* porrecta eſſet.

This tranſlation of ἠχίη by *ſcopuli* and *petra* is the very origin of d'Anville's error. He looks for a rock where there is none, till he has brought it from eight miles diſtance, and then it is not in the ſea, but on a ſandy plain near three miles from the ſhore.

I render ἠχίη, ſurf; and there can be no error in my conſtruction greater than this. It is either the ſurf itſelf, that is, the breach of the water, or elſe the ſhoal or breakers on which it beats.

"conſiderable

" conſiderable way into the ſea." Theſe, as nearly as I can render them, are the very words of Arrian, and a ſingle glance at the Jaſk of Captain Blair's ſketch ſeems now to determine the queſtion paſt contradiction. The extent of the ſurf naturally implies the extent of the projection; and if extent is not the peculiar feature of Jaſk, in oppoſition to Bombareek, there is no truth either in the plan of Baffin or the ſketch of Blair: add breakers to this projection, and the picture is complete. But we may advance one ſtep farther ſtill, for Arrian ſays expreſsly, that from this cape the courſe was no longer weſt, but north-weſt. This is true of Jaſk, but not of Bombareek; for from Bombareek the courſe would be almoſt due north. Let us hear modern authority upon this point. Cutler, in his Coaſting Pilot, fixes the ſame points for Jaſk and Bombareek as Captain Blair; and he aſſerts[231], that " from Guadel to Jaſk the coaſt " lies weſt by north, and eaſt by ſouth;" but " from the point of " Jaſk to the low point of Bombareek the courſe is *north-weſt*."

Theſe are the grounds upon which I venture to aſſert, that d'Anville is in an error at the commencement of his diſcourſe; but it is an error ariſing, not from want of reſearch or diſcernment, but from the materials he had to work upon; and from a falſe confidence common to too many of his countrymen, who place their truſt in tranſlators, inſtead of referring to the original text. The attention paid to this ſtation of Badis will not be deemed ſuperfluous, when it is conſidered that the geography of Ptolemy and Arrian are thus rendered conſiſtent, and the true limit of Karmania fixed. Neither will the modern navigator be diſpleaſed to obtain the true Cape Jaſk, which, if native information be the beſt, is fixed immutably

[231] P. 69 and 70. in Mr. Dalrymple's Collection. He writes Jaſques and Combarick.

by Captain Blair. It is no ordinary pleaſure to have my own doubts ſatisfied; for, having originally aſſumed Muckſa for Badis, I had afterwards changed the arrangement in deference to d'Anville; I now revert to my firſt opinion [232], upon the authority here produced; and I know not of any one ſuggeſtion to the contrary, except that Badis and Bareek bear a diſtant reſemblance. The preciſion which has been attained by theſe inquiries will enable me now to reduce two previous ſtations to probability, which were paſſed in haſte; for Dagaſira falls in, by the meaſures of Arrian [233], with the firſt cape weſt of the Tanka, and Trœſi muſt of courſe be about eighteen or twenty miles eaſtward of Dagaſira. My firſt arrangement of the ſtations from Kyiza had been very different, but the meaſures are more correct by the preſent allotment, which is founded on the information of Otter compared with Ptolemy, and is upon the whole as accurate as any ſtatement can be expected in a tract of the greateſt obſcurity. Trœſi is the only place I have reaſon to doubt, and the corruption of the text renders it a hopeleſs ſearch. I would have carried it either to the Maſis of Ptolemy or the Salarus of Marcian, where a river is ſtill marked by Commodore Robinſon, if the cape had not ſtood in the way; but I can determine little what is right, except from the order given to it by Arrian. The ſame muſt be confeſſed of Ptolemy's Rhogana and Ommana. The journal, indeed, is not concerned with them; but I would wiſh to aſſign them a ſite, though it is not eaſy to diſcover one, unleſs they lie between the two capes eaſt of the Tanka, and

[232] In conſequence of this fluctuation, this part of the narrative has been reviewed and written three times over.

[233] Eleven hundred ſtadia, nearly ſixty-nine miles.

then

then the Agris [234] of Ptolemy interferes with the diſpoſition. I ſhall add but one particular more, as a general confirmation of the arrangement I have adopted, and ſubmit the whole to the judgment of the reader. It is this:—The rivers of my ancient authorities are all found upon the modern charts; if, therefore, an individual poſition ſhould be wrong, the general delineation is nevertheleſs right; and I add, upon the compariſon it will prove that Kan is equivalent to Kienk, and that both indiſputably mark a river.

Kan-driakes,	-	the Kie-Kienk, between Guttar and Churbar.
Kana-diſa,	-	the river at Tiz.
Kana-Té,	-	the Tanka.
Sarus,	-	the Iſqui, or Iſkim.
Kan-Ratis, or Batis,		the river at Badis, or Jaſk.

Theſe five ſtreams appear in Arrian, Marcian, and Ptolemy, and five only, without addition, on the modern charts; four of them

[234] The Agris of Ptolemy is written Agriſa, as Hudſon informs us, by the old interpreter of that author; and Agriſa it appears in Marcian; in the Table I have ventured to form, Agariſa, and then tranſpoſe the ſyllables ſo as to extract Agaſira or Dagaſira from it. If the reader ſhould doubt the propriety of theſe tranſpoſitions, I muſt obſerve that the corruption is not merely European, but Oriental alſo. Gezira is a town of ſome note on the Tigris, near Merdin, and takes its name from being ſurrounded on three ſides by a winding of the river. Dr. Howel, who came by this route from Baſra to Conſtantinople, ſays, the *natives* call it Jeſſeera or Geraza. (See his Journal 1788, p. 79.) If he had written both words, as he ought to have done, with the ſame letters tranſpoſed, we ſhould have had the very tranſpoſition from the natives for which I contend:—Geriſa, Geſira; Jeſſeera, Jereeſſa. The errors which ariſe between the eye, the ear, and the mouth, in hearing, writing, and pronouncing, are beyond calculation, beſides thoſe which proceed from ignorance. Two inſtances are before me which may cauſe the reader to ſmile. The Engliſh tranſlator of Bernier's Travels makes the French phyſician ſay, that he was hoſpitably entertained by the Engliſh at Calcutta, who treated him with an excellent liquor called *Bouleponge*. The tranſlator never once ſuſpected that his countrymen made a *bowl of punch*.

A ſecond occurs in Pietro della Vallé. His French tranſlator ſays, he embarked in an Engliſh ſhip at Gomroon, called the *Vubali*. This ſtrange word is nothing more than the *Whale*. But the Frenchman, having no w in his own language, wrote two u's, or rather Vu, and then turned an Italic *h* into a *b*; thus *Whale* became *Vubali*. Etymologiſts are often ridiculed; but I claim no ſmall ſhare of credit for the reſolution of this difficulty.

occur with the adjunct Kan. Is it arrogance to ſay that this amounts to demonſtration?

At Badis[235] is the boundary between Karmania and the deſolate coaſt of the Ichthyophagi; and at this limit I muſt pauſe, to conſider the ſum of Arrian's meaſures, and to compare them with the actual extent of the coaſt. This labour indeed is ſhortened by the Table already given from Moſarna, comprehending ſeven thouſand four hundred ſtadia out of the ten thouſand which form Arrian's total between Malana and Badis; but this total, like many others, differs from its particulars, for the numbers from Malana to Moſarna ſtand thus:

	Stadia.	
To Bagaſira, - -	600	
To Kolta, - -	200	
To Kalama, - -	600	
To Kyſa, - -	200	
To Moſarna, - -	150	Rook[236], 400.
	1750	
	250	from Rook.
	2000	
	7400	to Badis.
	9400	

[235] After conjecturing that the adjunct Ba marks a *bay*, or that part of a cape which joins the main, I ought not to contradict this by a new ſuppoſition; but I cannot help noticing that *Badh* in Hebrew ſignifies a *limit* or *boundary*; and for the connexion between Hebrew, Arabic, and Perſic, ſee the queſtions propoſed by Michaelis, &c. to Niebuhr and his fellow-travellers, in the firſt volume of Arabia.

[236] Rook's addition is fair; for one hundred and fifty ſtadia are aſſigned to the cape alone; but I obſerve, where a cape is marked and no diſtance afterwards given, the fleet appears to anchor as ſoon as it is round. See Eirus.

To this ſum Rook adds ſix hundred[237] ſtadia, for a diſtance omitted between Kanaſida and Kanaté, to make up the ten thouſand of Arrian. Theſe ſix hundred I have omitted, from the preſſure of numbers too high on that part of the coaſt, and comprehended the whole two days' courſe in the ſeven hundred and fifty ſtadia to Kanaté. Nothing, however, is gained by this; for though it eaſes the meaſure on the coaſt, it ſtill diſagrees with the total. It is not a little remarkable, that Strabo's[238] meaſure of the whole coaſt ſhould be the preciſe ſum that Arrian reckons from Moſarna, ſeven thouſand four hundred; and as Marcian and Ptolemy extend the limits of Karmania to Moſarna, if I had found the ſame number in Marcian, I ſhould have concluded Strabo had been miſled by ſome boundary of the ſame kind: but Marcian's total from Badis to Moſarna is four thouſand ſix hundred, and from Karpella one thouſand more. I ſhall produce a reaſon likewiſe preſently, why I think Marcian reckoned by a different ſtadium: but let us firſt obſerve, that by Arrian's total,

10,000 ſtadia produce	—	625 Britiſh miles,		
Strabo's 7,000	—	—	462½	
Commodore Robinſon's chart,	—	480[239]		
			625	
			480	

ſo that the exceſs upon the whole coaſt, by Arrian's numbers, is 145

[237] By an error of the preſs, it appears nine hundred.

[238] Gronovius doubts Caſaubon's ſtatement of Strabo's ſum. Arrian, p. 344.

[239] The four hundred and eighty miles are continued here, to correſpond with the ſame number in Book I. Art. Stadium: but an error was there noticed, ariſing from the diminution of a degree of longitude in latitude 25, and there is a ſecond error to be acknowledged here; for the former meaſure was taken to Karpella, twenty-ſeven miles weſt of Jaſk, as I did not at that time know the real diſtinction between theſe capes. After due allowance made for both theſe errors, and ſome conſiderations of ſmaller moment, there is ſtill room for farther diſcuſſion, if I had not already dwelt on theſe minute particulars too long.

miles,

miles, and Strabo's comes much nearer to the truth. It is not poſſible to account for Arrian's exceſs by the ſinuoſity of the coaſt; for no ſhore of equal extent has fewer curves: but if the exceſs cannot be juſtified, it juſtifies the ſyſtem I have adopted all along this tract of the Ichthyophagi, of ſhortening all his meaſures where the nature of the courſe or character of the coaſt required it. It is not juſt to charge Nearchus with a deſign of lengthening this navigation, in order to enhance the difficulty or the danger: but diſtreſs and famine make every paſſage appear longer than it is, as mariners aſſure me; and when the fleet under the guidance of Hydrakes kept at a farther diſtance from ſhore than Greek pilots would have dared, it is probable that meaſures were aſcertained with leſs correctneſs, or inflamed by conjecture. Marcian, in the proem to his work, has fully ſtated the difficulty of obtaining correct diſtances by means of itineraries and journals; ſome meaſure by a right line, ſome by the curvature of the coaſt, and all in general exceed the truth. That this, therefore, ſhould take place in the narrative before us, will not appear extraordinary to thoſe who know that the length of the Mediterranean was eſtimated by the longitudes of Ptolemy till the laſt century, and that it was curtailed of near twenty-five degrees by obſervation [240], no farther back than the reign of Lewis XIV.

The general exceſs of Ptolemy is too well known to require a comment here; but the effect of it upon this coaſt will explain the eſtimates of Marcian upon a principle that has never been noticed

[240] Mercator's map in Ptolemy gives the Mediterranean near 65°; d'Anville's little more than 40°.

Scanderoon, Alexandria, and Conſtantinople were determined by Mr. Chazelles, about the year one thouſand ſix hundred and ninety-three, ſent up the Levant for that purpoſe. The meridian of Paris to the Straits of Gibraltar about one thouſand ſeven hundred and twenty. Some doubt ſtill remains between Gibraltar and Algiers. Blair's Riſe and Prog. of Geog. p. 154.

hitherto

hitherto by geographers. Ptolemy places Karpella in longitude[241] 94°, and Moſarna 103° 15′; the interval is conſequently 9° 15′ degrees of longitude; and, upon the ſame interval, Marcian reckons five thouſand ſix hundred ſtadia, which brings his eſtimate to ſix hundred and twenty-two ſtadia for a degree of Ptolemy's. Let us then advert to the common calculation of the Greeks, ſix hundred and twenty ſtadia[242] to a degree, and we immediately diſcover, that Marcian's ſtadium is the Olympian, of eight to a Roman mile, and not the ſtadium of Arrian, which is nearly fifteen to the ſame meaſure. It is evident threfore that Marcian, as the copyiſt of Ptolemy, has taken his degrees for a ſtandard, and formed his own meaſures by this calculation of ſix hundred and twenty ſtadia to the degree. In order to apply this eſtimate then to the caſe before us, let us next take the meaſures between Moſarna and Badis. The ſtadia of Arrian are ſeven thouſand four hundred upon this interval, and thoſe of Marcian four thouſand ſix hundred: but as Arrian's ſtadia are fifteen to a mile Roman, they produce four hundred and ninety-two[243] miles Roman; and as Marcian's are eight to the ſame meaſure, they give five hundred and ſeventy-five miles Roman. From this deduction, therefore, it is manifeſt that the eſtimation of the coaſt by Marcian is more in exceſs than Arrian's ſtatement; and upon repetition of this experiment upon the whole extent from

[241] In latitude 25°, which is the medium of this courſe, a degree of longitude contains in reality but fifty-four one-half geographical miles; and upon this, ſome farther inquiries might be grounded: but the object here is only to obtain a general deduction, and the reaſoning, as far as I am a judge, is concluſive: but I refer it with great deference to profeſſed geometricians.

[242] D'Anville reckons ſix hundred, Goſſelin ſeven hundred, for a degree of a great circle: the ordinary and uſual eſtimate is ſix hundred and twenty.

[243] Equal to four hundred and ſixty-two miles Engliſh. The fractions are omitted.

Karpella

Karpella to the Indus, I had the ſatisfaction to find that the iſſue was nearly the ſame.

By this method, if I cannot reconcile Arrian's account to truth, I at leaſt account for his error; and I ſhew that his error is leſs than that of other ancient geographers. Even in his error, I find the means of elucidating his narrative; for there is little reaſon to object to the poſition of the ſtations in the order they appear, but the diſcordance of the meaſures. This diſcordance affects, in reality, only one place upon which there remains any juſt reaſon to doubt; that is, Trœſi. If this be carried to the Sarus, Dagaſira muſt be fixed at the ſecond cape weſtward of the Tanka, inſtead of the firſt; and this encroaches as much on the meaſures between that cape and Badis, as the contrary ſuppoſition does on the diſtance between the Tanka and the firſt cape. Working as I have done upon ſcanty materials, I truſt that merit will rather be imputable, for the ſervice performed, than blame incurred, for the degree of obſcurity which remains [244]. Some obſcurity remains upon all nautical meaſurements; and if modern navigators, with the aſſiſtance of inſtruments which divide to a ſecond, ſtill differ in their obſervations, what allowance ought not to be made to the ancient diſcoverers, who had only the eye and the hand to direct them, and who conſequently drew the beſt of their concluſions from conjecture?

The time employed on the coaſt of the Ichthyophagi is twenty-one days, according to the account in the margin, which reduces each day's courſe to an average of twenty-two miles on the real

[244] φημὶ δὲ ἐκ ἐν ἅπασι τοῖς τῆς θαλάττης μέρεσι ῥᾴδιον εἶναι τὸν τῶν σταδίων ἀριθμὸν εἰπεῖν τὸ ἀκριβέστατον ἀνευρεῖν. It is no eaſy matter to determine accurately the number of ſtadia upon any coaſt. Marcian Heracl. p. 3.

meaſure,

meaſure, and twenty-nine upon the meaſures of Arrian. The eſtimate of time may be corrected, when the fleet opens a communication with the army in Karmania. The allowance, therefore, of a day upon ſome particular intervals, where there was no evidence in the journal, cannot materially affect the correctneſs of the account. As the fleet ſailed with a pilot on board, and with the advantage of the monſoon, more days may have been allowed than neceſſary, and leſs extent given to the average of each day's courſe; but there are data to correct the ſtatement, which will be produced on the arrival of the fleet at the Anamis.

The manners of the wretched inhabitants have, occaſionally, been already noticed; but Nearchus dwells upon ſome farther particulars, which, from their conformity with modern information, are worthy of remark. Their ordinary ſupport is fiſh, as the name of Ichthyophagi, or fiſh-eaters, implies; but why they are for this reaſon ſpecified as a ſeparate tribe from the Gadroſians, who live inland, does not appear. Ptolemy conſiders all this coaſt as Karmania, quite to Moſarna; and whether Gadroſia is a part of that province, or a province itſelf, is no matter of importance: but the coaſt muſt have received the name Nearchus gives it from Nearchus himſelf, for it is Greek, and he is the firſt Greek who explored it. It may perhaps be a tranſlation of a native name; and ſuch tranſlations the Greeks indulged in, ſometimes to the prejudice of geography[245]. But theſe people, though they live on fiſh, are few of them fiſhermen; for their barks are few, and thoſe few very mean and unfit for the ſervice. The fiſh they obtain, they owe to the

[245] Heliopolis in Syria, Polytimetus a river in Sogdiana, Hecatompylon in Parthia, &c. &c. are all inſtances of this practice.

flux and reflux of the tide; for they extend a net[246] upon the ſhore, ſupported by ſtakes of more than two hundred yards in length; within which, at the tide of ebb, the fiſh are confined, and ſettle in the pits or inequalities of the ſand, either made for this purpoſe or accidental. The greater quantity conſiſts of ſmall fiſh; but many large ones are alſo caught, which they ſearch for in the pits, and extract with nets. Their nets are compoſed of the bark or fibres of the palm, which they twine into a cord, and form like the nets[247] of other countries. The fiſh is generally eaten raw, juſt as it is taken out of the water, at leaſt ſuch as is ſmall and penetrable; but the larger ſort, and thoſe of more ſolid texture, they expoſe to the ſun, and pound[248] them to a paſte for ſtore: this they uſe inſtead of meal or bread, or form them into a ſort of cakes[249] or frumenty. The very cattle live on

[246] Thoſe who are acquainted with the coaſt of Kent will recollect a ſimilar practice in Sandwich Bay, called Pegwell Bay from this circumſtance, where the nets are of much greater extent; Arrian ſays two ſtadia (equal perhaps to two hundred and eight yards Engliſh), meaning to expreſs a great length. I am aware that the expreſſion may be judged to interfere with the ſmall ſtadium of d'Anville, but every thing is ſmall or great by compariſon; and if the ordinary Greek net was leſs than two hundred yards, this is conſequently large.

[247] The uſe of the net was found, I think, in every iſland of the South Sea viſited by Captain Cook, and on every coaſt except New Holland. Specimens of the natives' ſkill in the art of net-making are found in the Britiſh Muſeum. This, among other endowments, tends to prove them of a ſuperior origin to the Blacks of New Holland or New Guinea, they are probably Malay, as the vocabularies of their language ſeem to prove.

[248] καταλῶντες, rendered by Vulcanius. *Majores vero duriores/que ad ſolem torrentes ſimul ac penitus toſti fuerint molentes in farinam redigunt*; that is, they grind them and make a paſte or caviar of them. Gronovius objects to *grinding* them, as they have no mills. He propoſes to read καταθλῶντες, *pounding*, or καταχλῶντες, *breaking ſmall*; both which manners of preparation are juſtified, by Strabo's mention of mortars made of the vertebræ of the whale, and the paſte or meal noticed by Arrian: and καταλῶντες, *grinding*, may be thought not to depart from its proper ſenſe, if we conſider the people ſpoken of, though they had no mills. The ſame kind of paſte is made to the preſent day on this coaſt, on the coaſt of Arabia, and in the gulph of Perſia.

[249] Μάζας, *Polenta*, a thin cake or paſte of meal, ſtill uſed in Italy by the name of Polenta, according to Barretti. (Letters to S. Sharp.) The ancient Polenta was ſometimes not a ſolid.

dried

dried fiſh, for there is neither graſs nor paſture on the coaſt. Oyſters, crabs, and ſhell-fiſh are caught in plenty; and though this circumſtance is ſpecified twice only in the early part of the voyage, there is little doubt but that theſe formed the principal ſupport of the people during their navigation. Salt is here the production of nature; by which we are to underſtand, that the power of the ſun in this latitude is ſufficient for exhalation and chryſtallization without the additional aid of fire; and from this ſalt they formed an extract [250] which they uſed as the Greeks uſe oil. The country, for the moſt part, is ſo deſolate, that the natives have no addition to their fiſh, but dates: in ſome few places a ſmall quantity of grain is ſown; and there, bread is their viand of luxury, and fiſh ſtands in the rank of bread. The generality of the people live in cabins, ſmall [251] and ſtifling; the better ſort only have houſes conſtructed with the bones of whales; for whales are frequently thrown [252] up on the coaſt, and when the fleſh is rotted off they take the bones, making planks [253] and doors of ſuch as are flat, and beams or rafters of the ribs or jaw-bones: and many of theſe monſters are found fifty yards in length. Strabo confirms this report of Arrian; and adds, that the vertebræ or ſocket-bones of the back are formed into mortars, in which they pound their fiſh, and mix it up into a paſte, with the addition of a little meal.

[250] Ἔλαιον, oil. But how oil from ſalt? ſays Rooke. Read Ἔλαια for Ἅλας; for what elſe is oil made from but olives? If olives were found upon this coaſt, the reading might be juſt; but olive oil was ſuch a luxury to the Greeks, that if a ſingle tree had appeared on the coaſt Nearchus would not have omitted the mention of it. He affirms the direct contrary.

[251] Ἐν καλύβαις σπιγηραῖς. See Ar. 335.

[252] Strabo ſays the bones only.

If they had the art of ſplitting whalebone, a very commodious covering might be obtained, for the jaws of this fiſh furniſh a thouſand plates from twelve to fifteen feet long, eight or ten inches broad. Lettice's Tour in Scotland, p. 421.

[253] From a part in the jaw.

To this ſcanty liſt of proviſions our modern voyagers add little. Barboſa, Thevenot, Tavernier, and Niebuhr, all mention fiſh on this coaſt as ſtill the food of the natives, and from hence all up the eaſtern ſhore of the gulph of Perſia; to which Lieutenant Porter adds a few goats and ſheep, neither cheap or good; and once only he mentions vegetables at Churbar, which were good but very ſcarce. Whether camels are uſually eaten on this coaſt, as they are in Arabia, is not aſcertained; thoſe which Nearchus procured at Trœſi he ſeems to have employed, as the inhabitants of a beſieged town may ſometimes be reduced to feed on horſe-fleſh: but beyond this inſtance I find nothing ſpecified. Marcian mentions a tribe called Camel-eaters [254], in Karmania, if they are not rather Camel-feeders; and another ſtyled Turtle-eaters at Samydaké [255], on the coaſt of the Icthyophagi: it ſhould rather ſeem that all theſe names imply diſguſt at the manners of the natives.

Whether whales are found on this coaſt at preſent, or whether houſes are ſtill built of their bones, I find no authority to determine. The ſilence of Lieutenant Porter appears in evidence againſt it, for it is a peculiarity which would be as likely to command the attention of a modern as an ancient navigator; and whether the animals ſeen by Nearchus were whales, or not, may poſſibly be diſputed, for the Greek word may be applied to any fiſh of great magnitude. The ſize of fifty yards [256] ſeems to confine the expreſſion to this animal;

[254] Καμηλοβοσκοὶ, if eaters, would be rather Καμηλοφάγοι, like χελωνοφάγοι, &c.

[255] Written Αμηδακὴ: ſo little apology is wanting for the addition or ſubtraction of an initial letter.

[256] εἴκοσι καὶ πέντε ὀργυιάς. Twenty-five fathoms.

οἷα περ ἐκ ποιητήρων βιᾷ ἀναφερόμενοι.

I never reflect on this paſſage without adverting to Thevenot's deſcription of the water-ſpouts ſeen by him nearly in this very ſea. Part II. p. 185. Eng. ed. Πρηστὴρ, however, is ſaid not to be the word which uſually expreſſes that phænomenon, but Τυφών. Yet I ſee nothing in either to apply one more particularly than the other, except the modern diſtinction. I do not mean to infer that Nearchus miſtook a water-ſpout for the blowing of a whale; but the compariſon, in this ſea more eſpecially, is remarkable.

and

and though blowing is not peculiar to the whale, the circumſtances which are immediately ſubſequent will beſt determine the judgment of the reader.

For Nearchus ſays, that on the morning he was off Kyiza or Guttar, they were ſurpriſed by obſerving the ſea thrown up to a great height in the air, as if it were carried up by a whirlwind. The people were alarmed, and inquired of their pilot what might be the cauſe of the phænomenon; he informed them, that it proceeded from the blowing of the whale, and that it was the practice of the creature as he ſported in the ſea. His report by no means quieted their alarm; they ſtopped rowing from aſtoniſhment, and the oars fell from their hands. Nearchus encouraged them, and recalled them to their duty, ordering the heads of the veſſels to be pointed at the ſeveral creatures as they approached, and to attack them as they would the veſſel of an enemy in battle: the fleet immediately formed as if going to engage, and advanced by a ſignal given; when ſhouting all together[257], and daſhing the water with their oars, with the trumpets ſounding at the ſame time, they had the ſatisfaction to ſee the enemy give way; for upon the approach of the veſſels the monſters a-head ſunk before them, and roſe again a-ſtern, where they continued their blowing, without exciting any farther alarm. All the credit of the victory fell to the ſhare of Nearchus, and the acclamations of the people expreſſed their acknowledgment, both of his judgment and fortitude, employed in their unexpected delivery.

The ſimplicity of this narrative beſpeaks its truth, the circumſtances are ſuch as would naturally occur to men who had ſeen

[257] ὅσον ἀι κεφαλαὶ αὐτοῖσιν ἐχώρεον ἐπαλαλάξαι. As loud as they could ſhout the *alala*, or cry of war.

animals

animals of this magnitude for the firſt time; and the better knowledge our navigators are poſſeſſed of, who hunt the whale in his polar retreats, ſhews that he is ſometimes as dangerous an enemy as he appeared to the followers of Nearchus.

The mention of this engagement might have been ſpared in a work dedicated to geographical reſearch, but thoſe who are acquainted with Arrian would not have pardoned the omiſſion; and it is one part of my intention not to defraud Nearchus of any honour due to him, either for his fortitude or his nautical abilities. This tranſaction is almoſt the only part of the voyage that Diodorus thought worth recording; and if the readers of his age had a reliſh for this ſort of hiſtory, why ſhould he not have indulged their taſte? But there is a ſecond tale too ſingular to be paſſed without obſervation, for we are informed that the Ichthyophagi derive their origin and manners from a race of men who frequented theſe ſeas, and who having by chance or enchantment landed on an iſland named Noſala, were there entertained by a Nereid, and afterwards transformed into fiſh. Fortunately for the metamorphoſed, this ſpot was under the protection of the Sun, who, diſpleaſed equally at the cruelty of the nymph as her licentiouſneſs, ordered her to depart the iſland. She ſubmitted to the decree, and was preparing for her exile; but, as a laſt effort, ſhe hoped by a diſplay of her charms to entangle the god, and involve him in the ſame fate[258] as his predeceſſors in her favour had experienced. How great was her mortification, when ſhe found him inattentive to her allurements, and employed in a ſecond transformation of her lovers into their

[258] This is Gronovius's interpretation of an obſcure paſſage.

native

native figure? From theſe men, ſo happily reſtored, the Ichthyophagi derive [259] their origin.

Arrian [260] is offended at Nearchus, firſt for recording this fable, and then for refuting it: but the ſtory is perfectly Greek; for the Nereid is only Circe, or Calypſo, conveyed to the Eaſt Indies, and Apollo is Ulyſſes, but with more continence. The cataſtrophe of the piece, which conſiſts in the delivery of the metamorphoſed, is brought about with more dignity by Apollo's reſiſting the temptation, than by Ulyſſes's [261] yielding to the ſolicitation of the enchantreſs.

The beſt excuſe for introducing this tale is, that Nearchus had loſt one of his tranſports manned with Egyptians, and the report was current in the fleet that the veſſel had diſappeared at an enchanted iſland; Nearchus ordered out a party to viſit this iſle, and call aloud the names of thoſe whom he ſuppoſed to have been ſhipwrecked. Not content with this, he went himſelf to the place, and compelled his people to land, much againſt their inclination; but they found neither their loſt companions nor the Nereid.

Poſſibly even this excuſe will not be admitted; for no iſland occurs on the whole coaſt after leaving Aſhtola, except a very ſmall one in Guttar Bay, which muſt have been ſeen on the day the nameleſs town was taken, and which lay too clearly in view to cauſe theſe idle terrors. If any iſland exiſts, it ought to unite the

[259] Theſe are the Myrmidons of Theſſaly, the Sparti of Thebes, tranſplanted to an Indian ſoil. Nearchus imputes the fable to his Indian guides: but it is Greek; unleſs fables ſimilar to the Greek mythology are current all over the world.

[260] Strabo mentions this ſtory, p. 726, with ſimilar circumſtances; but without the Nereid.

[261] Ulyſſes reſiſted the cup, but not the paſſion of Circe. Od. K. 347. His refuſal of the cup forms an alluſion for the moraliſt; his paſſing a year with the goddeſs is ſuppreſſed. See a very elegant frontiſpiece on this ſubject in Rouſſeau's Emile.

Polla of Ptolemy with this Noſala [262]; but the coaſt is now too well known to give us hopes of finding [263] one; and if not found, the whole is a tale calculated to raiſe the importance of Nearchus, and ſhew that he was the only man in the fleet who feared neither the blowing of a whale, nor the enchantment of a Nereid.

Upon a review of both theſe ſtories, we ſhall be induced to reflect that Greek mariners were ſubject to vain terrors and ſuperſtitions like thoſe of our own country; and in both, if we find this failing not incompatible with determined bravery, we ought to allow due merit to every commander who knows how to ſuppreſs the one, and call the other into action.

I cannot take a final leave of this coaſt without obſerving, that the whole diſtance from the Indus to Cape Jaſk comes out as near as may be, ſix hundred and twenty-five miles, equal to the eſtimation of Arrian on the coaſt of the Ichthyophagi alone; and this number of miles Nearchus was from ſeventy to ſeventy-five days in paſſing: if, however, with due allowance made for ſetting out againſt the monſoon, and twenty-four days loſt at Cape Monze, we reduce the whole to forty [264] days, we may form a comparative view between ancient and modern navigation; for it appears from the journal of the Houghton Eaſt Indiaman, that ſhe made the ſame run in thirteen days, and upon her return was only five days from

[262] Noſala lies one hundred ſtadia, or ſix miles, from the coaſt. Arrian.

[263] "There are very few iſlands on this "coaſt." M'Cluer, in Mr. Dalrymple's Collection, p. 98. But in ſeveral charts of the gulph of Perſia one iſland, and in ſome two very ſmall ones, are ſpecified a little to the eaſtward of Cape Jaſk. They are apparently nothing more than hummocks upon a low coaſt ſhewing themſelves like iſlands at a diſtance; and laid down as ſuch by thoſe who never approached near enough to aſcertain them. D'Anville has thus made iſlands of Godeim and Bombareek.

[264] Some days were loſt on the junction with Leonnatus, and at the Tomérus, but not more than were neceſſary for repairs.

Gomeroon

Gomeroon [265] to Scindy Bar. But ſo far is this from diminiſhing the credit of the firſt navigators, that it is enhanced by every difficulty they had to ſurmount; weak veſſels with inexperienced mariners, no proviſions but ſuch as an unknown coaſt might furniſh, no convenience for ſleeping on board, no pilot but ſuch as they might caſually pick up on their courſe; no certainty that this ſea was ever navigated before, or even navigable; and no reſources ſuch as the moderns have, without number, in their arms, their inſtruments, their experience, and the accumulated acquiſitions of knowledge, whether practical or theoretical. Under all theſe diſadvantages, if the object was attained, and the voyage completed, it is not the length of the courſe that ought to raiſe the name of Columbus higher than that of Nearchus; the conſequences derived from the diſcoveries of both are equally important, and the commerce with the Eaſt Indies upon a level with that of America: but if the communication fixed at Alexandria is the origin of the Portugueſe diſcoveries, and the circumnavigation of Africa, Nearchus is in fact the primary author of diſcovery in general, and the maſter both of Gama and Columbus.

There is one extraordinary circumſtance attending this expedition, which is, that we find no mention of mutiny or diſeaſe among the people: the former would be naturally checked by their ſituation, for they had no ſecond hope if they failed in the execution of their enterpriſe, and no chance of preſervation but by obedience to their commander; the latter was leſs likely to occur, from the circumſtances peculiar to the navigation; and the maladies ariſing from famine or bad proviſions appear not to have had ſufficient time to exhibit their worſt effects: as far as can be collected from the

[265] Gombroon, Gambroon, &c. the B inſerted, as in Cymeru, Cambro-Britons.

journal, they were never without ſhell-fiſh till within a few days of their arrival; and ſcorbutic diſorders, which are the ſcourge of the mariner in the protracted voyages of the moderns, are never noticed by the ancients. The proximity of land, the frequency of ſleeping on ſhore, and the properties of their veſſels, which were not decked, ſeem to have operated to the excluſion of a diſeaſe, which two hundred years experience is only now teaching modern navigators to combat, and this experience nothing but the perſevering diſcipline of Cook could have reduced to practice.

It is not apparent that the paſſage[266] from the Indus to the gulph of Perſia had ever been performed by the natives, for however great the commerce on that river was, and however extended, its progreſs naturally bent towards the coaſt of Malabar and the peninſula. The natives there, were all Indians; while on the weſt, the name terminated at the Arabis, and all Indian manners with the boundary of the Oritæ at Malana. This appears to me a proof that no commerce from the Indus was carried farther by the Indians; the other natives, whether Oritæ or Icthyophagi, had no embarkations even for fiſhing, and the Perſians were never navigators. If any veſſels, therefore, viſited theſe coaſts even in that early age, they were probably Arabian[267]; but of this there can be no ſatisfactory evidence.

[266] Τὰ μὲν γαρ τῆς Ἑώας Ἀλέξανδρος ὁ Μακεδὼν ἔνλα τοῖς ἀνθρώποις πάντα κατέστησε.

Anonymous author, cited by Dodwell in his Diſſertation on Scylax, p. 47.

Alexander was the diſcoverer of the eaſt.

[267] The reaſon for this conjecture has been noticed upon the mention of Dagaſira; and I ſuſpect Sakala, Kokala, Gogana, Malana, Talmena, &c. to be all Arabic, if their ſignification were traced. When I meet with a river called Ægoſpotamos, I can diſcover the language of the nation from whence the name is derived as readily as I can aſſign Cape Finiſterre, Cape Clear, or Chriſtmas Sound, to the reſpective people who have beſtowed theſe appellations.

"There is a ſtriking analogy between the "manners aſcribed to the ancient Icthyo-"phagi and thoſe of theſe Arabs [on the "eaſtern coaſt of the gulph of Perſia]. "... They uſe little food but fiſh and dates; "they feed alſo their cattle upon fiſh." Niebhur, Eng. ed. vol. ii. p. 138.

That

That ſomething paſſed upon the ſea, and in all appearance from port to port, there ſeems to be ground for ſuppoſing; for Hydrakes could not have been worthy of employment without ſome ſort of experience; and there is a ſhadow of evidence that the pirates to eaſtward of the Indus, who have been pirates in all ages, accidentally viſited the coaſt, either for the purpoſe of intercepting the traffic, or of plundering the property of the inhabitants; and yet what temptation could they preſent, unleſs ſlaves were a commodity? If ſo, their perſons might be ſeized, provided there were any record of a market to point out where they were diſpoſed of, but the whole teſtimony which can be collected amounts in no degree to a proof of a navigation like that of Nearchus from India to Perſia; and as this is the principal link in the future chain of communication with Europe, the merit of examining it ſeems wholly due to him as the original undertaker. I am not ignorant of a much longer voyage in this very direction imputed to Scylax by Herodotus[268], from Pactya (the Pekeli[269] of Rennell) into the gulph of Arabia; but whether this voyage was performed by the Perſians, or that other round the Cape of Good Hope by the Phœnicians from Egypt, as recorded by him, is a point highly problematical in the opinion of every one who conſiders the ſtructure of ancient veſſels, and their whole method of navigation: I believe the record of both, as preſerved by Herodotus, to be evidence that the Perſians or Egyptians knew, from communication with the interior of the reſpective countries, that they were bounded by the ocean, and afforded the means of navigation; but that the voyages were actually performed

[268] Herod. lib. iv. p. 300.

[269] The province Peckeli, or Puckeli, on the Indus; but Dodwell ſuppoſes Pactya, or Caſpatyrus, to be on the Ganges. See Diſſert. on Scylax

requires more evidence, more particulars, and a clearer detail of facts, to enable us to form a judgment. The bare aſſertion that the thing had been done might lead Alexander to think it practicable; but the Perſian voyage produced no conſequences whatever, and the Egyptian navigation led to nothing, unleſs we ſuppoſe the Portugueſe diſcoverers influenced by the aſſertion [270], that a paſſage round the Cape was practicable.

Scylax ought to be a Greek by the place of his nativity, Caryanda, or at leaſt an inhabitant of Aſia Minor; but we have no remains [271] of his journal, and no other evidence of his voyage but the report of Herodotus, which is very deficient in circumſtances to confirm its own authority; and collateral evidence there is none. In regard to the circumnavigation of Africa, there is one particular much inſiſted on by Larcher, Geſner [272], and other commentators, which is, the appearance of the ſun to the north; a phænomenon dependent on every navigation within the tropics. The reſerve of Herodotus [273], in ſaying that others may ſuppoſe this probable, though he doubts it himſelf, is a caution worthy of ſuch an hiſtorian, and more perſuaſive than the boldeſt aſſertion. I muſt, however, notice a peculiarity in this paſſage which ſeems to have eſcaped the ſcrutiny of his commentators; for he informs us in another place [274], that he went up the Nile himſelf as far as Elephan-

[270] Whether it will be thought probable that the Portugueſe navigators, or the council of Portugal, or any of the learned of that country, knew any thing of Herodotus, I pretend not to judge; but it is a remarkable coincidence, that the firſt edition of Herodotus was in — — 1474
Gama's diſcovery of the Cape, 1497
See Pref. to Weſſeling's Herod.

[271] The Syclax, publiſhed in the Geog. Minores by Hudſon, is proved to be an impoſture by Dodwell.

[272] See Geſner de Navigationibus extra Columnas Herculis, Præl. I. 6.

[273] Lib. iv. p. 298. Ed. Weſ.

[274] Lib. ii. p 115.

tinè,

tine, in order to aſcertain ſome circumſtances relative to the head of that river, about which he thought himſelf impoſed upon by a ſecretary of the prieſts at Sais. Now is it not extraordinary, that if he reached Elephantinè he ſhould not have viſited Syene [275], the very place at which he repreſents his doubts to exiſt? Is it not ſtrange, that though he lived prior to the conſtruction of the well [276] at Syene, he

[275] The modern Aſſouan, viſited by Pocock, Norden, Bruce, &c. &c. Su-ene is Aſ-ſooan with the article. D'Anville, Geog. Anc.

[276] I know no teſtimony of the well at Syene older than Strabo, lib. xvii. 817. but conclude that older may be found. Pliny, lib. ii. cap. 73, ſeems to intimate, that it was dug by Eratoſthenes at the time he was meaſuring an arc of the meridian. The following obſervations are kindly communicated by the Biſhop of Rocheſter:

The well, beſides that it was ſunk perpendicularly with the greateſt accuracy, was, I ſuppoſe, in ſhape an exact cylinder. Its breadth muſt have been moderate, ſo that a perſon, ſtanding upon the brink, might ſafely ſtoop enough over it to bring his eye into the axis of the cylinder, where it would be perpendicularly over the centre of the circular ſurface of the water. The water muſt have ſtood at a moderate height below the mouth of the well, far enough below the mouth to be ſheltered from the action of the wind, that its ſurface might be perfectly ſmooth and motionleſs; and not ſo low, but that the whole of its circular ſurface might be diſtinctly ſeen by the obſerver on the brink. A well formed in this manner would afford, as I apprehend, the moſt certain obſervation of the ſun's appulſe to the zenith, that could be made with the naked eye; for when the ſun's centre was upon the zenith, his diſc would be ſeen by reflection in the water, in the very middle of the well; that is, as a circle perfectly concentric with the circle of the water: and I believe, there is nothing of which the naked eye can judge with ſo much preciſion as the concentricity of two circles, provided the circles be neither very nearly equal, nor the inner circle very ſmall in proportion to the outer.

Plutarch ſays, that in his time the gnomons at Syene were no longer ſhadowleſs on the ſolſtitial day. This is very ſtrange. Eratoſthenes died, according to Blair's Tables, in the year before Chriſt 194; and Plutarch died in the year of Chriſt 119. The interval, therefore, between them was only 312 years; and the change of the obliquity of the ecliptic in this time (the only cauſe to which I can refer the alteration) was no more than 2′ 36″. A gnomon, therefore, at Syene of the length of twelve inches, if it caſt no ſhadow on the day of the ſolſtice, in the time of Eratoſthenes, ſhould have caſt a ſhadow, in the time of Plutarch, of the length only of $\frac{9}{250}$ths, *i. e.* not quite $\frac{1}{100}$th of an inch. The ſhadow of a perpendicular column of the height of 100 feet would have been $\frac{9}{25}$ths of an inch. But I can hardly think the ancients ever thought of conſtructing gnomons of ſuch a ſize. We read, indeed, in the Comedians, of ſhadows of ten, twelve, and even twenty feet long. Theſe ſeem to have been the ſhadows of gnomons: but

he ſhould mention nothing of the ſituation of Syene itſelf under the tropic? Had he been there in ſummer, he muſt himſelf have ſeen the phænomenon he profeſſes to doubt, or at leaſt the ſun vertical; and if his viſit was at any other ſeaſon, is it not remarkable that he ſhould not have heard of this circumſtance? Elephantinè is an iſland, or a city on an iſland, in the Nile, oppoſite to Syene[277], and yet Herodotus does not quite ſay he was actually at Syene. From his mention that the Cataracts are four days' ſail from the Elephantinè he viſited, may we not ſuſpect that it was ſome iſland lower down (for there are many), or that the iſland[278] called Elephantinè by Pocock is not the Elephantinè of Herodotus? and that the hiſtorian was not nearer Syene than within three days' ſail? for it is in reality leſs[279] than one day's ſail or journey by land from Syene to the Cataracts. I mention theſe particulars, in order to ſhew the great obſcurity which attends all the diſcoveries, whether real or pre-

but they were evening ſhadows, when the ſun was low, and people were going to ſupper: and this affords an argument that the gnomons of the ancients were of a very moderate ſize; for in the latitude of 40°, at the ſeaſon of the equinoxes, the ſun's altitude, one hour before ſunſet, could be 11° 26′; and a gnomon, of the height of 2 feet $\frac{3}{7}$ths of an inch, would caſt a ſhadow on the horizontal plane preciſely ten feet long. Half an hour before ſunſet, a gnomon of the height of one foot would caſt a ſhadow ten feet long. And in the ſame latitude, at the ſame ſeaſon, a gnomon of the height of ſix feet would caſt a ſhadow of the length of ten feet ſo early as eleven minutes after three in the afternoon. I think the ſmall variation that took place, between the time of Eratoſthenes and that of Plutarch, would be more eaſily diſcovered by the well than by any gnomon the ancients can be ſuppoſed to have uſed.

[277] Pocock, B. ii. p. 117. Bruce.

[278] Bruce mentions the iſland, but does not call it Elephantinè. Vol. i. p. 150.

[279] "The diſtance from the gate of the "town [Aſſoan] to Termiſſi or Marada, the "ſmall villages on the Cataract, is exactly ſix "Engliſh miles." Bruce, vol. i. p. 156.

See alſo a very curious account of the well and the latitude of Syene, which Bruce fixes at 24° 0′ 45″, and conſequently not under the tropic, p. 160; but more than half a degree to the north. Bruce, however, allows for the approximation of the ecliptic to the equator. The circumference of the ſun's diſc is to be taken into the account.

tended,

tenſled, in ages antecedent to hiſtory; and notwithſtanding all that Mr. Goſſelin has produced, to prove an early ſtate of navigation and geography, previous to the knowledge of the Greeks, and founded upon better principles; notwithſtanding the erudition diſplayed by Geſner in his treatiſe [280] on the navigation of the Phœnicians in the Atlantic; there is nothing appears ſufficiently ſatisfactory to eſtabliſh the authenticity of any one prior voyage, of equal importance, upon a footing with this of Nearchus; or any certainty to be obtained where the evidence is all circumſtantial, and none poſitive. From a journal like the Periplus [281] of Hanno, a knowledge of the coaſt of Africa will enable us to form a judgment of his progreſs; but a bare aſſertion of the performance of any voyage, without conſequences attendant or connected, without collateral or contemporary teſtimony, is too ſlight a foundation to ſupport any ſuperſtructure of importance. I ſhould think it time well employed to vindicate the honour of Columbus againſt the uſurpation of Veſpucius; but I would not beſtow a moment in annulling the claim of Madock and his Cambro-Britons to the diſcovery of America. The reader may conceive that this vindication of Nearchus partakes more of the partiality of an editor than the inveſtigation of truth: but I appeal to the ancient geographical fragments ſtill extant; the Periplus of Hanno, the ſurvey of the Euxine ſea by the real Arrian, and that of the Erythræan ſea or Indian ocean by the fictitious one; and I ſay that all theſe, as well

[280] Publiſhed with his edition of the works of Orpheus.

[281] Dodwell doubts the authenticity; but Dodwell errs as frequently on the ſide of ſcepticiſm as others do on the ſide of credulity.

as

as the journal of Nearchus, though they have their errors, difficulties, or even abſurdities, ſtill contain internal evidence of veracity, and are well worthy of examination; while the expedition of the Argonauts[282], of Pytheas or Scylax is merely a ſpeculation of amuſement.

There is, however, another way of inquiry into the diſcoveries attributed to the earlieſt times, which is, by examining the commodities ſuch diſcoveries would produce. Tin, the ſtaple of Britain, is mentioned in the moſt ancient authors neither as a rare nor a very precious metal; this muſt have been introduced to the nations on the Mediterranean, either by a tranſport over land (ſuch as is mentioned by Diodorus[283]), or through the medium of a Phœnician navigation: the exiſtence of the metal, therefore, in Greece and Aſia is a proof that the voyage was performed in ſome ſenſe or other. The ſudden influx of gold into Judæa[284] is equally a proof of a commerce extended into the Indian or Æthiopic ocean, beyond the limits of the gulph of Arabia. The materials ſtill found in

[282] Geſner, in his Preface to the Argonauticks of Orpheus, is confident that there is no expreſſion that indicates they are poſterior to the age of Homer. If the fact is ſo, it muſt be confeſſed that the mention or knowledge of Ireland, which occurs in that work, is an extent of geographical ſcience moſt ſurpriſing; for Homer's information went no farther than Italy, and even there it was only mythological.

[283] Lib. v. p. 361. Ed. Weſ.

Diodorus here mentions tin found in Spain, but not in great quantities; and it is highly probable that the grand ſource of that metal was always in Britain.

[284] It is not the buſineſs of this work to follow up theſe ſeveral incidents; but Bruce has moſt admirably illuſtrated the commerce of Hiram, Solomon, the Arabians and Egyptians on the Red Sea, and moſt indubitably proved that it tended to Africa rather than Aſia. When the haughty ſpirit which procured ſo many enemies to this illuſtrious traveller ſhall be forgotten, neither his knowledge nor his veracity will be longer impeached. There is much ſcope for curious inveſtigation upon the whole of this ſubject, which Dr. Robertſon has not proſecuted to its full extent. See Ezekiel, chap. xxvii.

Egypt,

Egypt, that contributed to the preſervation of the mummies, are ſome of them ſuppoſed to be Oriental; and if ſo, Egypt muſt have had, even antecedent[285] to hiſtory, a communication with the Eaſt, either directly by commerce of their own, or indirectly by means of intermediate nations, perhaps Arabian. In all theſe caſes, we have a right to aſſume the navigation from the view of its effects; but the voyage[286] of Scylax from India to Egypt, or that of the Phœnicians from Egypt round the continent of Africa, have neither produce nor conſequences; and though his is only a negative proof of their nonentity, it is as ſtrong as the nature of the caſe will admit: if no ſecond navigator had doubled the Cape of Good Hope, the diſcovery of Gama might have been deemed problematical. Were it poſſible to aſcribe theſe two voyages to the age of

[285] "Several authors agree in opinion, "that the ancient Egyptians poſſeſſed themſelves of the trade of the Eaſt by the Red "Sea; and that they carried on a conſiderable traffic with the Indian nations before "the time of Seſoſtris, who was contemporary "with Abraham." Aſtle. Or. and Progreſs of Writing, p. 41; who quotes Rollin, p. 59, 60. and Univ. Hiſtory, vol. i. p. 513. and might have added Huet.

I pretend not to inveſtigate any fact antecedent to hiſtory; but I can believe the Egyptians (from the increaſing evidence we now have of their arts, through the means of Pocock, Norden, and Bruce) to have been capable of any enterpriſe. Navigation, however, does not appear as one of their purſuits, for we cannot imagine thoſe who never appear upon the Mediterranean, to have made any great efforts upon the Indian ocean. All the veſſels we find in early ages on the Mediterranean are either Greek or Phœnician. Phœnicians navigated the Red Sea for Solomon, and not Egyptians, 2 Chronicle ix. 21.; and if the Egyptians had poſſeſſed a trade on that ſea, they would not have ſuffered rivals to interfere. The paſſage round Africa is not attributed by Herodotus to Egyptians, but Phœnicians: but I decline all diſquiſition on theſe matters previous to hiſtory; and mean at preſent only to maintain, that if we have the real journal of Nearchus in Arrian, it is the firſt authentic document of a voyage of importance to navigation.

[286] It is not impoſſible that all theſe aſſertions of circumnavigation aroſe from the idea of the ancients, that the ocean ſurrounded the earth like an iſland; an idea in ſome degree true: but unfortunately for one of theſe aſſertions, that of Patrocles, who maintained there was a paſſage from the Indian ocean into the Caſpian ſea, it has turned out that the Caſpian is a lake. See Strabo, lib. xi. p. 518.

Herodotus, his teſtimony is ſuch, that it ought to preponderate againſt every argument of mere ſpeculation: but he probably records only the vanity of two nations, one the moſt proud of its empire, and the other of its ſcience; both capable of attributing to themſelves an action done, if it were poſſible to be done; and of this, the poſſibility was perhaps known from internal information. My own opinion is decidedly againſt the reality of both theſe voyages; but whatever be my own judgment, it ſhall be ſubject to the deciſion of thoſe [287] who profeſſedly conſider the queſtion in its full extent; it is here only incidental: but I muſt ſtill repeat, that it is the aſſertion of facts without circumſtances, while the voyage of Nearchus is detailed in all its parts, and is the earlieſt [288] authentic journal extant. If, then, I am right, this is the firſt voyage of general importance to mankind; if I am miſtaken, it is ſtill the firſt of which any certain record is preſerved.

This diſcuſſion may appear more appropriate to the concluſion, than the progreſs of the enterpriſe; but the fact is, that, at this point, the great difficulty of the whole paſſage was ſurmounted; the remaining part, up the Gulph of Perſia, was neither expoſed to the calamity of famine, nor hazardous from the nature of the coaſt. We ſhall have ſome opportunities to remark, that as there was commerce among the natives, there were conſequently pilots to be obtained; and ſo ſatisfied was Nearchus of the

[287] Geſner.

[288] It is prior to the Periplus of Hanno, if it is the ſame Hanno, contemporary with Agathocles as generally ſuppoſed, for Agathocles died anno 289 A. C. The Greek Periplus of Hanno which we have is of late age, according to Dodwell, and a copy or extract poſſibly from the Carthaginian journal, as Arrian's is from Nearchus.

facility

facility of his future charge, that he refuſed being exonerated of the command.

The narrative itſelf alſo will, in ſome degree, be relieved from a barren recital of diſtreſſes, and a dubious arrangement of geography; our claſſical guides will be more intelligible; and our modern conductors, Dalrymple, d'Anville, and Niebuhr, more ſatisfactory. I have already mentioned d'Anville's diſſertation on this navigation of the Gulph of Perſia; and if I performed no other ſervice than introducing this work to the knowledge of the Engliſh reader, it would be an undertaking of merit.

SUSIANA
GULPH of PERSIA
PERSIA
ARABIA
OMAN
KERMAN
No. II
CHART of the GULPH of PERSIA

THE

VOYAGE

OF

NEARCHUS.

BOOK IV.

GULPH of PERSIA.

I. *Karmania.*—II. *Perſis.*—III. *Suſis, or Suſiana; with the Mouths of the Tigris, Euphrates, Eulæus, and Paſitigris.*

WE are now to enter upon the navigation of the Gulph of Perſia, comprehending the coaſt of Karmania, Perſis, and Suſiana; and, fortunately for this part of the voyage, our materials are as ample as could be deſired. Mr. d'Anville has publiſhed a Memoir [1] expreſsly upon the ſubject, which I ſhall uſe ſo freely as to preclude the neceſſity of ſpecifying the paſſages immediately referred to, unleſs where I am conſtrained to diſſent from his arrange-

[1] Vol. xxx. Memoirs of the Academy of Inſcriptions, &c.

ment;

ment; and this I ſhall always do with the reſpect due both to his claſſical and geographical pre-eminence: but our Engliſh navigators have, within theſe few years, explored this gulph ſo ſucceſsfully, as to leave little more for the inveſtigation of others. With theſe Mr. d'Anville was of courſe unacquainted; and, for want of the information they afford, was neceſſarily miſtaken in fixing ſome points of importance, more particularly at the head of the gulph, and the mouths of the Euphrates, the Tigris, and the Eulæus.

I have a variety of charts furniſhed by Mr. Dalrymple, accompanied with obſervations of his own [a], and illuſtrated by perſonal communication with him; but eſpecially four by Lieutenant M'Cluer, a moſt active and intelligent officer, which render all that concerns hydrography almoſt as perſpicuous as we could hope to find it on any coaſt of Europe: two of theſe comprehend the lower, and two the upper part of the gulph; the later publication in both inſtances is the moſt correct, and in both inſtances agrees beſt with Arrian. This is no accidental correſpondence, for Nearchus, by adhering to the coaſt, is neceſſarily more minute than a modern navigator who purſues his courſe unreſtrained; but the more ſuch a navigator enters into the detail of the coaſt, and the more intimate knowledge he acquires of it, the better ought his information naturally to coincide with a journal of ſuch diſcoverers as the Greeks. Mountains, rivers, bays, ſhoals, and iſlands are in their nature eternal; if theſe are marked

[a] Charts from Mr. D.
Four by M'Cluer.
Two by Harvey.
Two by d'Apres.
One, Niebuhr.
One, Van Keulen.
Two, Thornton's.
One, Claude Ruffeil.
One, Anonymous by Dalrymple, containing the mouths of the Euphrates.—Beſides a variety of plans and topographical ſketches.
One, Lieutenant Cant.
One, Kæmpfer.
One, Engelbert.
One, Friend.

diſtinctly

diſtinctly by Nearchus, they will ſtill be diſcoverable by their features; if otherwiſe, I would abandon the journal as a fiction. The iſſue is, however, exactly what we could deſire; for ſuch is the conformity of it with the modern accounts, that there will not remain a doubt[3] upon more than one or two ſtations in the whole gulph.

In regard to the geography of the country, I have not only conſulted claſſical authority, and the beſt modern travellers; but, where I could obtain it, have ſought for perſonal information from thoſe who have been reſident in the country. To Mr. Jones I am more eſpecially obliged, who was head of the Engliſh factory at Buſheer for ſeveral years, and afterwards in the ſame office at Baſra. This gentleman, from his knowledge of the Perſian language, his connexions and intimacy with the principal perſons in power, and his frequent viſits to the interior part of the country, is better qualified to decide in points of doubt, than almoſt any European who has been in Perſia; and I ought to add, that, without any previous knowledge of the author, he was as ready, as he was able, to communicate information.

With every aſſiſtance, however, that can be obtained, it is not in my power to give the courſe of the rivers with that correctneſs I wiſh; and though d'Anville has performed a great ſervice, in ſhewing that the rivers of Perſis, beyond the mountains, never reach the ſea, but are loſt in lakes, exhauſted upon agriculture, or abſorbed by ſands; and though he has likewiſe proved that the rivers, which fall into the gulph, are all derived from the range

[3] This is to be underſtood of places which have a name and characters. All anchorages on an open coaſt can be aſcertained only by meaſurement (ſuch as it is) and circumſtances.

which

which runs parallel with the coaſt, and forms the back ground of the Kermeſir, or hot level country next the ſea, he is ſtill undoubtedly miſtaken in the courſe and names he gives to ſome of thoſe in the upper part of the gulph; and I am not fully furniſhed with materials to correct his errors. The cauſe of this lies in the nature of the journals themſelves. Of theſe, I have conſulted a great number; but every one of them takes its direction from the point where the author landed, to Schiras, or from Schiras to the coaſt; and there is not one that goes along the Kermeſir below the mountains, nor perhaps ever will be one; for it is a matter of doubt whether any European, except Hepheſtion and the forces he commanded, ever trod the whole extent of this ground; and as this is the only route which could cut the ſtreams from the mountains at right angles, and afford the means of eſtabliſhing the order in which they ſucceed, it will be long before this deſideratum in geography can be ſupplied. Pietro della Vallé went from Mina to Lar; but from Lar, north-weſt to the Aroſis or Endian, there is no method of continuing the route but by fragments of routes from Al Edriſi, or by enumerating the principal places which lie in that direction.

I muſt now return to the fleet, which I left at Badis, that is, in the bay of Jaſk, in order to conduct it along the coaſt of Karmania. Badis I have concluded to be either the town of Jaſk, marked in Baffin's plan and Captain Blair's ſketch, or upon the river laid down by Baffin in the bay, about five miles from the head of Jaſk, if there ever has been a town in that ſituation. Cutler[4] has noticed

[4] Cutler, p. 83, in Dalrymple's Collection. Thornton, p. 69. ibid. Both ſeem to have copied from Baffin; and Thornton not correctly.

this river as a ſecure harbour for any veſſel not drawing more than eleven feet, and here a fleet of Greek gallies might have lain, though, from the ſhortneſs of the time Nearchus ſtaid, we ought rather to ſuppoſe he rode in the open bay. No day is ſpecified here, but as this was the firſt place where it was poſſible to procure a ſupply, after the diſtreſs they had experienced for ſome time paſt, it is neceſſary to allow a day, both for receiving the ſupply on board, and to give ſome relief to the people. After weighing, the following day the fleet proceeded fifty miles, and came to an anchor again upon an open coaſt. This anchorage, as it has no characteriſtic to diſtinguiſh it, but that the cape on the Arabian ſide of the gulph was in view, I have a right to fix by the meaſure of the courſe, if it coincides with a ſight of that object. The journal, in fact, gives an hundred miles between Badis[5] and the river Anamis or Mina; and notwithſtanding d'Anville's map gives the ſame diſtance between Karpella and the Anamis, there is great reaſon to ſuppoſe that he has both extended the meaſure between the two, and carried the Anamis nearer to Gomeroon than it ought to be; for his own map of Aſia allots only[6] one degree, while that compoſed for the memoir allows a degree and an half for the ſame ſpace. The ſuſpicion on this head is confirmed both by Niebuhr and Pietro della Vallé. Upon reference to the charts it will immediately appear, that there is a cape on the Perſian coaſt, nearly oppoſite to Muſſendon on the Arabian ſide; and the ſtreight between theſe two points is exactly the part where the entrance into the gulph is narroweſt. It mea-

First ſtation in KARMANIA. BADIS. Dec. 17. Seventy-ſeventh day.

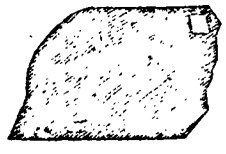
AN OPEN SHORE. Dec. 18. Seventy-eighth day.

[5] Both Gronovius and Salmaſius, from an error in Pliny, ſeem to ſuppoſe that Badis is the Sabis of Ptolemy and the Sabai of Dionyſius: but Sabis is an inland town, and Sabai is in Perſis. See Gronovius in loco, p. 347. Salmaſ. Plin. Ex. 1188.

[6] See the general map of Aſia, firſt part.

 ſures

ſures here only thirty-four [7] nautic miles in M'Cluer's chart, and Muſſendon is ſo high as to be viſible, not only on the coaſt oppoſite, but almoſt all the way from Karpella. The cape on the Perſian ſide is improperly named Bombareek by M'Cluer, an error he fell into from conſidering the real Bombareek as Jaſk: but this cape is the Armozon of Ptolemy, as appears evidently by his ſeries, though it has no name in our Engliſh charts on which I can depend. It is in the curve previous to this cape that I fix the preſent anchorage on an open ſhore; and in the paſſage from Badis to this point, the fleet muſt have paſſed the Bombareek rock, though no notice is taken of it, nor of Mount Elbourz, not far from which they muſt have anchored. Bombareek, which is the orthography I adopt, is no otherwiſe proper than as the term moſt in uſe by our navigators; but it paſſes through a great variety of appellations, all, as I have before obſerved, corruptions of Cohum-ba-regh [8], and appears from the ſea as is here repreſented, in a level plain of looſe ſand, between two and three miles from the ſhore, but is not an iſland, as it is laid down in d'Anville and ſeveral of the older [9] charts. This is the rock which gives name to the cape, and at the cape there is a ſmall creek, but ſo entirely choked up [10], that it will not admit a boat; it is repreſented in Commodore Robinſon's chart, in the chart com-



[7] Pliny ſays, fifty Roman miles. D'Anville makes it about twenty-four miles and an half Engliſh. See Plin. lib. vi. c. 23. c. 26. D'Anville Mem. p. 144.

Pliny is nearer the truth than d'Anville chooſes to allow. Arrian ſays, it is a day's ſail. Six or ſeven of the charts before me agree with M'Cluer; and d'Anville hazards ſome deductions of importance, if he is miſtaken.

[8] Gombareek, Gombarreek, Gombarat, Bombarack, Bombarick, Mumbarick.

[9] This has ariſen from a deception of the ſight when the object was viewed at a diſtance, and the coaſt was not high enough to appear.

[10] Lieutenant Porter, Lieutenant Blair.

poſed

poſed for this work, and in Captain Blair's ſketch: if Badis were to be fixed, therefore, at Karpella, this creek muſt be aſſumed for the poſition of the town, but there is no town here at preſent; and, from the ſterile ſand in the neighbourhood, it does not appear that a town could exiſt. This circumſtance, added to the inſignificance of the creek, contributes to extinguiſh all idea of fixing Badis here, while an ample bay, a town, and a river, added to the acute angle of the cape at Jaſk, direct us to prefer that as the true poſition of Badis.

Mount Elbourz, or Ehours, the Strongylus of Ptolemy, the Round Mountain of Semiramis, as it is called by Marcian, lies, according to Ptolemy, thirty nautic miles north of Karpella. D'Anville gives it nearly the ſame diſtance, and Samuel Thornton ſomething more; but it is in my eſtimation only twenty-four miles, to which if we add twenty-ſeven from Jaſk to Karpella, the total is fifty-one miles, differing only one mile from Arrian. My authority for this is the journal of the Houghton Eaſt Indiaman[11], which may poſſibly reckon from the Bombareek rock rather than the cape. Even in this caſe, the diſtance will fall ſhort only eight miles; this is the extent of the difference, and many of the meaſures on the coaſt of Karmania will partake of the ſame deficiency. It may ſeem extraordinary that ſuch a rock as Bombareek, and a mountain like Elbourz, which had evidently attracted the notice of mariners in the age of Ptolemy, ſhould be paſſed in ſilence by the journal; but ſimilar inſtances are not unfrequent; errors of addition there are none, but omiſſions have already occurred, and there are ſome more

[11] "Mount de Chouſe is eight leagues "to the eaſtward [northward] of Bom- "bareek." Journal of the Houghton, 1755.

to occur [12] in the courſe of the navigation: but it is obſervable, upon more occaſions than the preſent, that a rock, an headland, or a river, however unnoticed, attracts the fleet to an anchorage; and this is probably the caſe with Elbourz in the inſtance before us. Arrian ſeems to conſider the gulph of Perſia as commencing at a line drawn between Cape Muſſendon and the ſhore where the fleet now rode: and this naturally directs us to Elbourz itſelf, which Marcian deſcribes as cloſe to Armozon. His language is ſo preciſe, that I ſhall adduce his very words: "Near Armozon [13] lies the "Round Mountain of Semiramis; oppoſite to which is Mount "Paſabo in Arabia, and the promontory formed by it: theſe two "mountains, with their promontories, form the ſtreights at the "entrance of the gulph of Perſia." Paſabo is the Sabo and Aſabo of Ptolemy, the Muſſendon of our modern charts; and Strongylus, or the Round Mountain, is the Elbourz of d'Anville, transformed by our Engliſh navigators into Ehowers, Howres, Howſe, and Chowſe. M'Cluer has very improperly brought Bombareek to this cape and mountain, but I admit his delineation of the coaſt; and here, attracted by the Strongylus, I bring Nearchus to an anchor. The ancient name of Muſſendon [14] is Makæ [15], and Maketa, as well as Aſabo, and the cape itſelf is the termination of a very high and broken iſland [16], partaking of the nature of a craggy ridge on the continent of Arabia, called the Black Mountains by Ptolemy. Theſe,

[12] The iſland at Bender-Regh, &c.

[13] Αρμόζοντος . . . . . ἐνταῦθα παράκειται τὸ προῤῥηθὲν στρογγύλον ὄρος Σεμιράμιδος ὥπερ ἀντικεῖσθαι ἔφαμεν κατὰ τὴν εὐδαίμονα Ἀραβίαν Πασαβὼ ὄρος τε καὶ ἀκρωτήριον, ἅπερ ἑκάτερα ὄρη τε καὶ ἀκρωτήρια τὰ στενὰ ποιεῖ τοῦ Περσικοῦ κόλπου. Marcian Hudſ. Geog. Min. p. 21.

[14] Written Muſſeldom, Muſſendom, Mochandan, Moçandan, &c. &c.

[15] Makæ, more properly the people.

[16] M'Cluer, p. 16.

with

with their adjunct[17] Asabo, express the Black Mountains of the south[18]; for towards this point they lie in respect to the Arabians, who conferred the title upon them. Several small and rugged islets lie off this cape, called the Coins, from forming the angle of the streights, as I imagine, and the whole presents a frightful appearance, if the delineation of Ressende in the British Museum may be credited.

The sight of Mussendon gave rise to a dispute which renders this anchorage important, for this promontory Onesicritus proposed to explore, with the intention, it should seem, of extending the voyage to the Gulph of Arabia. He asserted that[19] they were in distress, and likely to be driven about the gulph they were now entering, without knowledge of the coast, or any determinate point to which they might direct their course. Nearchus[20] resisted this proposal with the utmost steadiness; he represented to the council of officers, that Onesicritus appeared ignorant of the design of Alexander, who had not put the people on board because there were no means of conducting them by land; but that his express purpose was, to obtain a knowledge of the coast, with such harbours, bays, and islands as might occur in the course of the voyage; to ascertain

[17] μέλανα ὄρη καλοῦμενα Ἀσαβῶ. Ptol. p. 153.

[18] Sabo, with the article in Arabic, As-Sabo. D'Anville Geog. Anc. vol. ii. 228. Sabo signifies South. Bruce, vol. i. p. 381. So in Scripture, the queen of Seba is called the Queen of the South. Mat xii. 42. Marcian writes the name Pasabo probably by a corruption of the text.

[19] ὡς μὴ κατὰ τὸν κόλπον ἐλαστρεύοντας ἰαλαιπωρέεσθαι.

It is not very evident what Onesicritus means; but as Alexander was master of Egypt, he might consider the gulph of Arabia as a sea known to the Egyptians, and more likely to afford them safety or protection than the Gulph of Persia, which had never yet been visited by his countrymen.

[20] This dispute is not only detailed in the journal, but recorded in the history, p. 301.

whether

whether there were any towns bordering on the ocean; and whether the country was habitable or deſert. He added, that they had now almoſt obtained the object of their expedition; and that they ought not to hazard the completion of it, by the purſuit of a different deſign: that the cape in view proved, that the coaſt below it tended to the ſouth, where the country might be more directly under the influence of the ſun, more torrid, parched, and deſtitute of water; and that, ſince they had reached the coaſt of Karmania, they were no longer in deſpair of ſupport. Theſe were all reaſons, he alleged, for purſuing the courſe they were now in, rather than deviating from it; and if Alexander had completed his expedition by land, there was reaſonable ground for hope that a communication with the army might be obtained, when all the dangers they had experienced would be rewarded by the approbation of the king, and the applauſes of their countrymen.

This addreſs had its due effect upon the council; the advice of the admiral was adopted; and in this inſtance, ſays Arrian, I am perſuaded that the ſucceſs of the expedition, and the preſervation of all that had embarked in it, is imputable ſolely to Nearchus: an encomium to which no one can refuſe to ſubſcribe who is acquainted with the coaſt of Arabia, and conſiders the total unfitneſs of the fleet for ſuch a navigation.

Pietro della Vallé, who reſided ſome time at Mina, a town on the river Anamis, in this neighbourhood, has furniſhed ſome general circumſtances that demand attention; for he not only mentions the river at Mina, which he calls Ibrahim[21], and which muſt be the Anamis, to which the fleet is now directing its courſe, but notices

[21] Probably a Mahometan title from ſome Imam, or ſovereign.

two

two or three little ports between the preſent anchorage and Gomeroon; not that they are ports, he adds, but that every village where a veſſel can land her cargo, or whence there are a few veſſels ſent to ſea, obtains the name of Bender; and, in this ſenſe, Kuheſteck and Bender Ibrahim are ports as well as Bender Abbaſſi or Gomeroon. Such a port as this was probably Neoptana, a place which the fleet reached the following day, after a courſe of forty-four miles; and Bender Ibrahim, the port at the river Ibrahim, or Anamis, ſeems to occupy the very ſame ground on which Nearchus formed his naval camp, when he arrived at that river the ſucceeding day: the diſtance from Neoptana is ſtated at about ſix miles, making in the whole an hundred miles from Badis.

NEOPTANA. Dec. 10. Seventy-ninth day.

ANAMIS River. Dec. 20. Eightieth day.

Upon a review of this diſtance, I am more confirmed in fixing Badis at Jaſk, and the firſt anchorage from thence at Elbourz, for the meaſure of about fifty miles, comes out conſiſtent both by the journal and our modern accounts; and if the ſpace from Elbourz to the Anamis does not correſpond ſo happily, it muſt be obſerved that M. d'Anville has lengthened that diſtance [22] in the map of his memoir, in order to accommodate it to his interpretation of the journal: this at leaſt I ſuſpect, though I cannot find the means of correction, for our Engliſh charts are too hydrographical to notice ſo ſmall a ſtream, and it muſt be confeſſed that the manuſcript of Reſſende, which was conſulted, carries the Obremi, as Ibrahim is there written, much nearer to Ormuz.

The river Anamis is fixed by Arrian in the country of Harmozeia, an appellation which immediately ſuggeſts the reſemblance it bears to Harmuz or Hormuz, the celebrated iſle of Ormuz, in the

[22] The diſtance is greater in the map conſtructed for his memoir than in that of Aſie, premiere partie.

neighbourhood;

neighbourhood. The ſame title is given to this tract by Ptolemy, of which his Cape Armozon is the boundary; and the means by which the name paſſed from the continent to the iſland are common to almoſt every iſland in the gulph. This tract is ſtyled Moghoſtan, or the date country, in Oriental geography, extending to Karpella, or perhaps Jaſk; and as we are much concerned with the interior part of it, on account of the journey taken by Nearchus from the Anamis, to the encampment of the army, it is fortunate that we have the information of ſo circumſtantial a traveller as Pietro della Vallé to direct our inveſtigation.

Pietro della Vallé was a Roman of noble family, who, after reſiding ſome years in Perſia, came down from Schiras, with an intention of embarking at Ormuz for the Eaſt Indies; but upon his reaching the coaſt he found the forces of Perſia collected, which, with the aſſiſtance of the Engliſh fleet, were to wreſt the poſſeſſion of this Oriental emporium from the Portugueſe. The conſequence neceſſarily was, that all communication with the iſland was prohibited, and that, in order to avoid the inſolence of the ſoldiery, he kept at a diſtance from the coaſt, taking up his abode at Mina, the capital of the diſtrict, where he continued during the latter end of the year one thouſand ſix hundred and twenty-one, and the commencement [23] of one thouſand ſix hundred and twenty-two. He had here the misfortune to loſe his beloved Maani, a Chriſtian lady, and a Neſtorian, whom he had married at Bagdat, and in whoſe ſtory are interſperſed a variety of pathetic [24] incidents, painted with

[23] Tom. v. in fine.

[24] The writings of Petrarch formed a ſchool of romantic lovers in Italy; and Pietro was an academician of the ſociety called *Humouriſts*, at Rome. His narrative is often poetical, and Madam Maani's horſe Derviſch is upon a level with Argus, the dog of Ulyſſes, without the appearance of imitation. Gibbon ſtyles him, not without reaſon, an author intolerably prolix and vain.

the romantic gallantry of an Italian lover, and ſurpaſſing in reality all the lucid fictions of a modern novel. I have not thought it inconſiſtent with my deſign to mention theſe particulars, becauſe the geographical information dependant on them is important. He acquaints us, then, that Mina is the capital of Moghoſtan, and this its name implies, for Mina [25] ſignifies a fort, and Moghoſtan is a diſtrict of the ancient Karmania, extending from Cape Jaſk to the north of Gomeroon[26]: he adds, that the heats are inſupportable, and the climate moſt unhealthy; but a more particular circumſtance he notices is, that the river which riſes in the neighbourhood falls into the gulph at about two days'[27] journey from the city, and this river can be no other than the Anamis of Arrian, and the Andanis [28] of Ptolemy. If Arrian had followed the inflexion of this word, which I hoped to find in him, we ſhould have read ANA-MINA; but he has written Anamis, and conſequently ANA-MIN [29]. I cannot be perſuaded, however, to believe, that there is no connexion between the ancient and modern name, unleſs it ſhall hereafter appear that Mina is of a more recent date. The name of Ibrahim, which the river now bears, is evidently a perſonal derivative, and moſt probably from the ſepulchre of ſome Mahometan ſaint in the neighbourhood; but the ancient appellation is conſonant to the preſent uſage of mariners, who drop the native names of rivers, and call them from the town in their neighbourhood, as the Buſheer river, the Baſra river, &c.

[25] Gambron, Niebuhr. Combru, P. della Vallé. Gambroon, Gameroon, &c. &c.

[26] Mina, Minau, Minavé. Mina ſignifies a fort; as Minavé the fort of Baſra.

[27] From forty to fifty miles.

[28] There is in Marcian a Tuanes, rendered Addanius by Hudſon, which he ſuppoſes may be the Anamis.

[29] Κατὰ τὸν ποταμὸν ΑΝΑΜΙΝ, p. 348. Another ſort of ſolution would account for ANA. By tranſpoſition, ANAMIS is A-MINAS.

I inſiſt the more upon this name, becauſe if Mina was formerly the principal place of the diſtrict, as it now is, it points out the reaſon why Nearchus pitched upon this ſtation in preference to any other for a camp. He had here a communication with an inland town of eminence, from which he might hope to derive ſome intelligence of the poſition of the army, and open ſome means of communication with the king: and as the communication was actually effected afterwards from this very point, it is hardly imputing too much to the intelligence which we may reaſonably ſuppoſe he obtained upon the coaſt.

He informs us himſelf, that he found the natives hoſpitably diſpoſed, and the country abounding in every kind of ſupply, but oil. The diſembarkation here is expreſſed in terms of joy, that intimate the previous confinement of the people on board for many days; a grievance almoſt intolerable, conſidering the conſtruction [30] of a Greek veſſel, and a deliverance from which was the greateſt of all refreſhments. A naval camp was eſtabliſhed here immediately, by drawing a line from the river to the beach, and fortified by a double rampart with a mound of earth, and a deep ditch, which ſeems to have been filled with water from the river. Within this incloſure, the veſſels were hauled on ſhore, and all the proper meaſures adopted both for their ſecurity and repair. It was the intention of the commander to leave his people in this camp, under the com-

[30] Ulyſſes, in all his wanderings, never appears to have ſlept, παρὰ πρυμνήσια νηός, in the after-part of the ſhip, when he could find another bed. In Homer's gallies there was an after-deck called Ἴκριον, on which the ſteerſman was elevated above the rowers in the waiſt. πρυμνήσια are properly the cables at the ſtern, but perhaps the after-part of the veſſel likewiſe; whether, when they ſlept on board, παρὰ πρυμνήσια, they ſlept on the Ἴκριον [deck], or under it, does not clearly appear. Either was bad lodging.

mand

mand of proper officers, while he tried himſelf to obtain an interview with the king: but before we accompany him in this attempt, it will be neceſſary to conſider the country around him with that which he was to penetrate, and the probable ſite of the Macedonian camp at the time.

It is eaſy to recogniſe the name of Ormuz in the Harmozeia of Arrian; but we are not therefore to ſuppoſe, that the local circumſtances of both are exactly the ſame. The preſent Ormuz is an iſland known to Nearchus by the name of Organa, and to the ſubſequent ages by the title of Gerun; and however fanciful a recurrence to tranſpoſition [31] may be deemed, Oregana converted into O-gerana is probably the medium for uniting them both. The appellation of Ormuz, afterwards given to the iſland from the neighbouring tract on the continent, is agreeable to an uſage prevalent in the gulph of Perſia, which we ſhall have occaſion to notice upon other occaſions; and the flight of the inhabitants from the continent to the iſlands, in caſes of oppreſſion or invaſion, is to this day a ſettled practice, as we are aſſured by Neibuhr [32]. D'Anville finds two periods, when the Harmozeians on the main might have fled to Gerun, and carried their name with them to their new abode. One in the beginning of the thirteenth century, when Bahud-din, a native chief on the coaſt, fled from an inroad of the Atabek Turcomans, who about that time eſtabliſhed themſelves in Pharſiſtan and Kerman [33]; and another in the year one thouſand two hundred and ſeventy-three, when the deſcendants of Gengis-Khan were maſters of the Perſian empire [34]. To theſe two periods I muſt add

[31] So Smaragdus is from Zumrud, Zmaragd. Bruce, vol. i. p. 207.

[32] See Niebuhr under the head. Abu-Schæhr.

[33] Perſis and Carmania.

[34] Cheref-eddin, vol. ii. p. 418. French edition.

a third: in the year one thouſand four hundred and ſeven [35], when Mahomet the ſon of Timour was ſent down from Schiras by his father to this coaſt, in order to ſubdue Mahomet Shah, the ſovereign of Ormuz, Ormuz was at that time evidently on the continent, for the ſon of Timour took ſeven fortreſſes which were the defence of the Shah's kingdom, and compelled him to fly to Geroum [36], exacting even there from him a tribute of ſix hundred thouſand dinars. This tranſaction proves, that the iſland was not yet called Ormuz in one thouſand four hundred and ſeven; while it is almoſt evident that Gerun was the place of retreat for the inhabitants of the continent on theſe three different occaſions; and, according to the obſervation of Niebuhr juſt mentioned, this is the cuſtom of the coaſt. The fluctuation of this word in European orthography juſtifies much greater liberties in regard to names, than any which occur in this work. Ormus, Ormuz, Ormutz, Hormus, Hormoz, Hormuzd, Harmozeia [37], Armozuſa, Armoxuſa, Armuza, are all applied either to the iſland or the neighbouring continent, and I conclude have all a derivation common alſo to Hormiſdas, which is Oromaſdes or Hormudſch the good principle in the ſuperſtition of the Parſees, and a name aſſumed by ſeveral princes of the fourth dynaſty, and ſome of a later date. Mr. d'Anville [38] has obſerved that there are four diſtricts, two on the gulph and two inland, that take their titles from different Per-

[35] Really one thouſand three hundred and ninety-ſeven; for there is an error of ten years in the chronology of Cheref-eddin.

[36] Geroum is called by Petis de la Croix in the margin, Gomeroon; but it ſhould rather be the iſland. not but that Geroum and Gomeroon may be mutually connected, like Ormuz, on the main, and Ormuz the iſle.

[37] It is worthy of notice, that Alfragani writes Harmuz with Ptolemy and Arrian. Gol. ad Alfrag. p. 112.

[38] Mem. p. 156.

D'Anville derives theſe diviſions from Golius ad Alfraganum; but Niebuhr ſays, no knowledge of ſuch a diviſion now remains. See Gol. Not. ad Alfra. p. 115. Niebuhr, vol. ii. p. 166. French edition.

ſian

ſian monarchs, Cobad [39], Sabur, Darab [40], and Ardeſhir, from Artaxerxes as he is ſtyled in Greek, Cobad, Sapor, and Darab; but, perhaps, if we ſhould judge theſe rather to have a derivation in common with the name of thoſe kings, than to take a name from them, Armoza may be added as a fifth [41], and related to Hormiſdas or Oromaſdes by the ſame connexion. All this is, however, a ſpeculation rather curious than neceſſary, and our concern is with the tract called Harmozeia by Arrian, Armuza by Ptolemy [42], and with his Cape Armozon, which Strabo [43] has marked preciſely as lying at the very point where the ſtrait is narroweſt. At this promontory I ſuppoſe the diſtrict of Arrian to commence; how far it extended towards the north, or whether it comprehended Gomeroon (Bender-Abbaſſi) within its limits, cannot now be determined; but there is ſufficient ground to conjecture, that it terminated within the limits of the modern Moghoſtan at the river called Rud-ſiur by Pietro della Vallé, and extended inland to the foot of the mountains. Every where along this coaſt a range runs in a line at no great diſtance from the ſea, incloſing the Kermeſir, a narrow ſtrip of level country rendered hot beyond meaſure, and unhealthy, from the want of circulation. As Harmozeia was a diſtrict of Karmania, in the ſame manner Lariſtan [44] and Moghoſtan are, in modern

[39] Theſe names ſeem all to ariſe from the fourth dynaſty of Perſian race. Heylin Coſm. lib. iii. To this dynaſty, perhaps, all the mythology and all the learning of the Parſees diſcovered by Anquetil du Perron may be referred.

[40] Thus Darab-chierd is Dario-certa. Pietro della Vallé, tom. vi. p. 130.

[41] It ought, however, to be noticed that Armozeia is in Karmania, not in Perſis.

[42] Ptol. p. 157.

[43] Strab. p. 765.

[44] Lariſtan, from Lar, a town much to the weſtward of Gomeroon, in the tract below the mountains. Pietro della Vallé retired to Lar, after a ſevere illneſs, which enſued upon the death of his wife, and had the good fortune to find there a Perſian well ſkilled in phyſic. His route, if we were concerned with the interior of the country, is well worth purſuing. See *infra*.

eſtimation,

eſtimation, ſo diſtinct from Kerman, that the province can hardly be ſaid to commence till you are paſt the mountains. Moghoſtan, or the land of dates, by its name implies the means of ſupport, and though the air is unwholeſome, according to modern accounts, the ſoil does not appear to be barren. The whole diſtrict was flouriſhing while the Portugueſe maintained their commerce at Ormuz; and Pietro della Vallé, in his time, found an Engliſh factory [45] eſtabliſhed at Mina for the purchaſe of ſilk. The whole of this coaſt is deſolated at preſent by the diſtracted ſtate of Perſia; and, according to Niebhur, ſubject to Arab Scheiks, who have taken advantage of thoſe troubles to paſs from the oppoſite coaſt, and eſtabliſh petty governments from Ormuz to Buſheer.

At the river Anamis, then, Nearchus took his meaſures for diſcovering the ſituation of the army, and he had the ſatisfaction to find, upon inquiry, that it had arrived in ſafety, and was not at a greater diſtance than five days' journey from the coaſt. A day's journey is ſtill an Oriental meaſure, and may vary in its utmoſt difference from twenty to thirty miles. Taken at a medium, therefore, Alexander was now an hundred and twenty-five miles from the coaſt; out of this ſum, if we be allowed to conduct Nearchus to Mina [46], we have two days' journey to ſubtract from our uncertainty, and only ſeventy-five miles inland from Mina, upon which a doubt would remain. My reaſon for conducting Nearchus to Mina is not wholly conjectural; for, in the firſt place, it is the capital of the diſtrict, which would naturally attract him; and, in

[45] Or at leaſt merchants.

[46] Niebuhr ſays Mina is only ſix leagues from the ſea; but I depend upon Pietro della Vallé, who reſided there ſome time, and had frequent occaſion to diſpatch meſſengers to the coaſt: but N. B. Six leagues is the expreſſion of the tranſlator. Niebuhr himſelf ſays, ſome leagues. See French edition, vol. ii. p. 165.

the

the next, we actually hear that the commander of the diſtrict, upon the arrival of the fleet, flew up to the camp to anticipate the intelligence of its arrival. The ſeat of empire is ſubject to the caprice of the monarch in the eaſt, and has frequently been changed; but in the provinces [47], or ſubdiviſion of provinces, the principal town having generally riſen from local convenience, is not ſo much expoſed to fluctuation: this induces me to think, that a place like Mina was the ancient capital, as well as the modern. We are, then, to look for Alexander in Karmania, at ſome convenient ſpot three days' journey from this town.

We left him at Poora in Gadroſia, which d'Anville [48] conſiders juſtly as the Pureg or Phoreg of the Nubian Geographer, and Arrian calls the capital of the province. The modern capital, according to Cheref-eddin, is Kidge [49]; and d'Anville has another Pohreg [50], or Forg, on the weſtern ſide of Karmania, in which he is juſtified by the Nubian Geographer, if I underſtand him right,

[47] In Hindoſtan, Palibothra, Canouge, Agra, and Dehli, have been the ſeats of empire in different ages: but Lahor has continued unchangeably the head of a province. Ecbatana, Perſepolis, and Suſa, have all ceded in Perſia to Iſpahan; but, Candahar, Herat, Balk, Lar, &c. are ſtill principal places.

[48] Geog. Ancienne, vol. ii. p. 283. written Fahrag, Fohreg, Pohreg, Puhreg, Puregh, Pureh. In all Perſian words, P and F are interchangeable. Fars is Perſis. G, GH, and H, are all final aſpirates, and hardly diſtinguiſhable. See Nub. Geog. p. 129.

[49] Vol. ii. p. 417.

Kidge becomes Kudj; from whence the Kutch of Europeans, and the Kutch Mekran of the Ayeen Akbari; and is ſometimes confounded with Tidge, which is upon the coaſt. Petis de la Croix, from the hiſtorians of Gingis Khan, mentions that the army of that prince of ravagers almoſt periſhed in this province. Pet. de la Croix's Hiſt. of Gingis, p. 337. Tiz is a place on the coaſt in the bay of Churbar, and poſſibly Petis de la Croix has confounded the two.

Otter ſays, Kie or Guie, vol. i. p. 408.

[50] Called Purg or Furg by Pietro de la Vallé, vol. v. p. 361. Leſs difference would appear in all theſe names if they were written with the PH inſtead of the F, which letter, in other Oriental tongues as well as the Hebrew, is the ſame. פ or ף, with no other diſtinction but the point. Phorg, Phoorg, Phooreg, Phooreh, paſs eaſily into *Poora*, the Greek pronunciation of Πουρα by this method of writing.

and

and by Pietro della Vallé, who was upon the ſpot. At Poora he was joined by Staſanor and Phrataphernes from the upper provinces, who, divining the difficulties he muſt have encountered, haſtened to his relief with proviſions, and a convoy of camels and other beaſts; the whole was diſtributed among the officers and their different troops as far as the ſupply would extend, and the army proceeded to Karmania as ſoon as it was recovered from its fatigues. The march was probably a proceſſion of joy and triumph, for the army was not only crowned with victory, but delivered from famine; but that it was a pomp of licence, revelry, and voluptuouſneſs, as painted by Plutarch and Q. Curtius, is a fiction, as Arrian aſſures us, not ſupported by Ptolemy, Ariſtobulus, or any other hiſtorian of authority. They both mention the exhibition of games and a ſolemn ſacrifice in gratitude for the deliverance experienced. Theſe were eaſily magnified into a Bacchanalian proceſſion, by a fertile imagination, and exaggerated on the ſide of exultation, as much as the diſtreſſes in Gadroſia had been amplified by terror. That their ſufferings were leſs than they are reported to be, appears from their future tranſactions; for there is no evidence of extraordinary weakneſs or diminution, the expeditions proceed as uſual, and the future plans daily increaſe in the magnitude of their object.

If now, therefore, we caſt an eye to the map, and conſider the ſituation of Mina [51] and the Gadroſian Fohregh, we can hardly be miſtaken in drawing a line through Giroft [52], a town of Karmania, which will ſtand as a point of union between the fleet and the army. My reaſon for fixing upon Giroft, or ſome place in its neighbour-

[51] Mina lies in 26° 35′ north latitude, according to Pietro della Vallé, vol. v. p. 397. It has two caſtles.

[52] Djirift of Otter, vol. i. p. 311.

hood lying on the ſame line, is, becauſe of its agreement with the diſtance of an hundred and twenty-five miles almoſt to a fraction[53], if d'Anville's map is correct. There is no town in Karmania, either upon this route or near it, except Valaſe-gerd[54] or Valaſe-cherd, which poſſibly has a better title to antiquity, if we may judge by its termination, for its final ſyllable is the ſame, though differently written, with that of Tigrano-certa and Paſa-garda[55], both ancient cities; the objection to Valaſe-cherd is, its too great proximity to the coaſt. Now, it is remarkable that Arrian, Strabo, Plutarch, and Curtius, none of them aſſign any name to the town where the interview took place, but Diodorus Siculus fixes it at Salmus, and adds, that Nearchus arriving when the king was in the theatre and exhibiting games to the army, he was introduced upon the ſtage, and requeſted to relate the account of his voyage to the aſſembly. Salmus is a name ſo void of any collateral ſupport, that the learned commentator[56] of Diodorus abandons it in deſpair, and I have ſearched every authority in my poſſeſſion without finding the moſt diſtant ſimilarity of name to fix it. In a caſe of deſpair, I offer the following conjecture as a mere ſpeculation (without building in the leaſt upon it) for the amuſement, I hope, not for the contempt of the reader:

[53] It meaſures almoſt, as exactly as the opening of the compaſſes will give, one hundred and twenty-five miles Roman, of ſeventy-five to a degree; and this, compared with the road diſtance, would amount to one hundred and twenty-five miles Britiſh, as near as preciſion itſelf could demand.

[54] Written both ways by the Nubian Geographer; where obſerve, -gerd preſerves the relation with Paſa-garda, and -cherd with Tigrano-certa. This termination ſignifies Fort, Town, or City, like the modern terms -abad, -patam, -poor, &c. Fat-abad, Jehann-abad, Melia-poor, Maſulipatam, &c.

[55] Paſa, written Pheſa and Beſa, which ſignifies the north-eaſt wind; becauſe it is cooled by that wind in a hot climate. Gol. ad Alfragan, 114.

[56] Weſſeling. ad Diodor. lib. xvii. p. 243. Σελμῦντι. Urbis nomen quam in Carmania fuiſſe ex Arriano conficias, lib. vi. 28. Ab aliis negligitur.

The Nubian Geographer[57] mentions MAAUN, a ſmall city, but much frequented by merchants, at one ſtation, or five and twenty miles, diſtance from Valaſe-cherd; and it is, I conclude, the ſame as d'Anville's De-Maum which ſtands between that town and Giroft. Is it, then, too much to ſay, that, in the SAL-MOUN-TI of Diodorus, we diſcover MAAUN? I know not the origin of d'Anville's DE- more than the SAL- of Diodorus; but Sal in Hebrew, and, if I am rightly informed, in Arabic or Perſic, has two ſignifications; by one it imports the *ſhelter* of a tent[58] or houſe; by the other, a *rampart*. Would it not then, in either ſenſe, apply? as firſt, the *camp* at Maaun, and ſecondly, *Fort* Maaun; or, if it ſhould be ſaid I take advantage of a Greek[59] inflexion to obtain MOUN-, I muſt obſerve, that words of this form, though they have not the letter N in their firſt appearance, always aſſume it by inflexion, and have it conſtantly implied. I give this merely as a ſpeculation, without pretenſion to Oriental learning; but I am perſuaded that an Orientaliſt who would purſue inquiries of this ſort would find his curioſity amply repaid. I ſhall draw no conſequence from it, though I prefer Maaun on this account, but fix the interview at Giroft, in which I adhere to the correſponding diſtance, and the opinion of d'Anville. If it ſhould hereafter appear that Diodorus has, under ſuch a diſguiſe, preſerved the name of this place, he has one offence the leſs in his barren account of this expedition. Giroft is ſtyled the capital[60] of Karmania by Petis de la Croix in his commentary on Cheref-eddin; which however it is not, for Seirdgian is the ca-

[57] P. 130. Canat-Alſciam, hinc ad MAAUN urbem parvam ſed commerciis minime infrequentem, ſtatio. Ab hac ad urbem Valaſegerd, quæ et Valaſecherd dicitur, ſtatio.

[58] סללה, a rampart, from צל סל, to ſhade or ſhelter, as a houſe or tent. Parkhurſt in voce.

[59] ΣΑΑΜΟΥΣ, pronounced SALMOOS, and formed like Peſſinus Peſſinuntis, Selinus Selinuntis; written in Latin originally, Peſſinuns, Selinuns, and ſo Σαλμῶις Σαλμῶιτος.

[60] The Nubian Geographer. Giroft autem magna eſt habetque in longitudine duo fere milliaria, p. 129.

pital: he adds, that it is four days' journey from Ormuz, and lies in latitude[61] 27° 30′. It is noticed by Golius as a large and pleaſant place, abounding in corn, fine fruits, and good water, and much frequented by the caravans; it is a place alſo of ſuch importance, that when Mirza Mehemet, the ſon of Timour, invaded the kingdom of Ormuz, he made it a poſt[62] for his brother, who commanded one of the diviſions of the army. According to the Nubian Geographer, there is an inland Hormoz-regis, or Hauz, lying between Phoreg and Giroft[63], which would induce a conjecture that, at the time of Mirza Mehemet's invaſion, the kingdom of Ormuz extended inland, or originated beyond the mountains, which line the coaſt; and that the name paſſed in the firſt inſtance from the inland town to the coaſt, and then from the coaſt to the iſland. If this conjecture be founded, it correſponds admirably with Arrian, for Nearchus found no city, but a diſtrict called the Harmozeian country, and probably the ſeat of government was at that period the inland Hormoz, exiſting as a kingdom or province of Ormuz, nearly in the ſame manner as in the age of Timour. The march of Mirza Mehemet's army in four diviſions, for the invaſion of this kingdom, throws[64] much light on this ſubject, if it were neceſſary to purſue it further. One circumſtance, however, muſt not be omitted, which is, that the poſition of Giroft depending on the Gadroſian Poora, or Phoreg, it is remarkable that the Nubian Geographer[65] places Phoreg at the commencement of the great deſert which extends to Segeſtan, and

[61] I believe Petis de la Croix's latitudes are from Abu'lfeda. See Cheref-eddin, vol. ii. p. 418.

[62] Golius ad Alfraganum, not. p. 118. Diſtant one day from Harmuz; if ſo, it is the inland Ormuz.

[63] There is an error in the Nubian Geographer, who ſays, firſt, that Hormoz is between Phoreg and Giroft, and afterwards that it is to the weſt of Giroft, which is impoſſible. D'Anville has placed Hormoz between the two, and therefore probably read *Orientem* for *Occidentem*, the eaſt for the weſt.

[64] Cheref-eddin, vol. ii. p. 417.

[65] P. 129.

at two hundred and ten miles[66] diſtance from the capital of that province. It is the lower part of that deſert which Alexander had juſt paſſed; and this furniſhes an additional proof to the direction of his march, and a ſtronger reaſon for conducting it to Giroſt inſtead of Seirdgian the capital, becauſe, if he had inclined to the north, his courſe would ſtill have been through the ſame deſert.

Upon the arrival of the army in Karmania, intelligence was received that Philip, the new-appointed ſatrap of India, had been aſſaſſinated by the native troops in his pay, and his death revenged by the Macedonians. Eudemus and Taxiles were ordered to take charge of the province till a new ſatrap ſhould be appointed. Staſanor, the ſatrap of Aria and Drangiana; Pharaſmanes, the ſon of Phrataphernes, ſatrap of Parthia and Hyrcania; Cleander, Sitalces, and Heracon, with a conſiderable force, and the army of Parmenio out of Media, all joined Alexander in Karmania, where Cleander and Sitalces, being accuſed of oppreſſion and ſacrilege, were tried and executed. Craterus alſo arrived with the elephants and heavy baggage, having experienced none of the difficulties in his march through Arachoſia and Drangiana[67], which Alexander had encountered in Gadroſia; and yet by a view of the map, and a reference to the geographers, we can hardly diſcover the means of his avoiding ſome part of that deſert on the eaſt of Karmania, which the Nubian Geographer ſays[68], is the largeſt in the world. All theſe circumſtances, though foreign to the voyage itſelf, are neceſſary to be mentioned at leaſt, becauſe they account for the delay of Alexander in the province, where ſo much buſineſs[69] appears to

[66] His account is not clear.

[67] See d'Anville Geog. Anc. p. 287. vol. ii.

[68] P. 128.

[69] At Poora there was alſo the appointment of Siburtius to the ſatrapy of Apollophanes, over the Oritæ.

have

have been tranſacted, beſides the recovery of his troops after the fatigue and diſtreſs of their march.

Thus having conſidered the march of the army and its preſent poſition, I ſhall next examine the dates. Nearchus reached the Anamis on the twentieth of December, and it is no matter of difficulty to ſhew the correſpondence of that date with the movements of the army. It has already been proved that Alexander left Pattala in the end of July, or beginning of Auguſt; and before the concluſion of that month, there is ſufficient evidence to ſhew, that he had paſſed the country of the Arabies and Oritæ, and had entered Gadroſia. The proof of this is, a circumſtance mentioned of his encamping in that province, after a diſtreſsful march upon the bank of a torrent, which ſwelled ſuddenly from rain that had fallen in the mountains, and ſwept away all the baggage of thoſe who, for the convenience of water, had pitched their tents too near the courſe of the ſtream. This fact is recorded both by Strabo and Arrian; and it proves that, though no rain falls in Gadroſia, the ſolſtitial rains were not yet over in the mountains which encircle that province on the north. Now Strabo ſays, that the rains end about the riſing of Arcturus[70], that is, the ſecond of September; and conſequently the army muſt have been in Gadroſia, and ſuffered this calamity, in the latter end of Auguſt. If, therefore, we add another fact to this, upon the authority of Arrian, that the army was ſixty days in paſſing Gadroſia, we bring its arrival at Poora to the end of October. The buſineſs tranſacted here and in Karmania may reaſonably be ſuppoſed to have occupied ſix weeks, to which an additional circum-

[70] Strabo, p. 691. Uſher, from Euctemon, ſays on the fifth of September. See Ephemeris de Anno Solar. Maced.

ſtance,

ſtance, not noticed by the hiſtorians, muſt be added, that is, the remounting of the cavalry; for all the horſes had periſhed in the deſert. Thus far a compariſon of facts would authoriſe the fixing of a date to the firſt or ſecond week in December; but we have a poſitive proof of the ſeaſon much ſtronger; for when Alexander, after receiving Nearchus, recommenced his march to the northward, he diſpatched Hephæſtion, with the greater part of the army, the baggage, and the elephants, to proceed along the ſea-coaſt of Karmania, becauſe it was now WINTER [71], and the climate was there milder [72], and ſupplies [73] were more eaſily to be procured: that is, Hephæſtion paſſed the mountains, and traverſed the modern Moghoſtan [74] and Lariſtan, or Kermeſir, while Alexander, with the remainder of the forces, proceeded inland to the northward of the mountains, and directed his courſe to Paſagarda. The direct mention of winter in this paſſage correſponds ſo preciſely with the twentieth of December, which the narrative of the journal produces, that there cannot poſſibly be an error of more than a few days. Such an error, I have before intimated, muſt lie on the ſide of exceſs; and I am diſpoſed to take off the ten days and fix

[71] Arrian, p. 270.

[72] ἀλκιμά τι ἦν. See a very long and angry note of Gronobius's upon this word, becauſe Facius and ſome others had read, ἀλκιμά τε ἦν, ibid.

[73] If we ſuppoſe Hephæſtion to have paſſed the mountains at Mina, which is probable, he marched to Lar the ſame road by which Pietro de la Vallé was carried ſick in a litter to the ſame town. See vol. v. ſub fine.

[74] Niebuhr ſays, from Bender Abbaſſi to Delam; it is an arid plain called Kermeſir, or the hot-country, by the Perſians. Vol. ii. p. 143. Engliſh edition. Pietro de la Vallé confirms this, by mentioning that it ſeldom rains at Lar, except a little in May. May is the coldeſt month. Vol. vi. p. 20. et ſeq. Strabo is very preciſe in his agreement with Niebuhr, p. 727; for he ſays, the ſea coaſt along the gulph, as far as the river Oroates, is barren, hot, and expoſed to violent winds for three hundred or four hundred ſtadia inland: from thence, a fine country to the north, for eight thouſand ſtadia!

Nearchus's

Nearchus's arrival at the Anamis on the tenth of December, in the year ſix hundred and twenty-ſix before the Chriſtian æra, in the eleventh year of the reign of Alexander.

The pleaſure of being once more on land, after all the diſtreſſes they had experienced, is painted in ſtrong colours by Nearchus [75]; and as they were now in a friendly country, without apprehenſion either of famine or danger, the people were ſoon diſperſed over the neighbouring tract, either from curioſity, or a deſire of ſupplying their ſeveral wants. One of theſe parties accidentally fell in with a ſtraggler, whoſe dreſs[76] and language diſcovered him to be a Greek; tears[77] burſt from their eyes upon ſeeing once more a native of their own country, and hearing once more the ſound of their own language. Inquiries commenced with the eagerneſs natural to their diſtreſs, when they learnt that he had not long left the army, and that the camp was at no great diſtance. They inſtantly hurried the ſtranger with all the tumult of joy to Nearchus; in his preſence, the ſame happy diſcovery was repeated, with aſſurances that the king was within five days' journey, and that the governor of the province was upon the ſpot, from whom farther intelligence might be obtained.

[75] P. 348.

[76] χλαμὺς.

[77] The claſſical reader will call to mind the ſame natural ſentiments attributed to Philoctetes by Sophocles, l. 222.

Ποίας πάτρας ὑμᾶς ἀν ἢ γένους ποτὲ
Τύχοιμ' ἀν ἐκπώ; σχῆμα μὲν γὰρ Ἑλλάδος
Στολῆς ὑπάρχει πρόσφιλεσάτης ἐμοὶ.
Φωνῆς δ' ἀκῦσαι βέλομαι.

Of what clime? what race?
Who are ye? Speak; if I may truſt that garb,
Familiar once to me, ye are of Greece,
My much-loved country: let me hear the ſound
Of your long-wiſhed for voice.

FRANCKLIN.

And afterwards,

Ω φίλτατον φώνημα. φεῦ τὸ κλύειν
Πρόσφθεγμα τοιῦδ' ἀνδρὸς ἐν χρόνῳ μακρῷ.

Oh happineſs to hear!
After ſo many years of dreadful ſilence,
How welcome was that ſound!

FRANCKLIN.

This

This circumſtance of good fortune occured on the day of their arrival. Nearchus inſtantly determined to undertake the journey, and the next day ordered the ſhips to be drawn on ſhore, and the camp to be fortified. While he was engaged in theſe tranſactions, the governor, who was not unacquainted with the anxiety of Alexander on account of the fleet, and thinking to recommend himſelf by carrying the firſt intelligence of its arrival, hurried up to the camp by the ſhorteſt route, and gaining admittance to the king, informed him that the fleet was ſafe, and that Nearchus himſelf was coming up in a few days. The joy of Alexander may be readily conceived, notwithſtanding he could ſcarcely allow himſelf to give full credit to the report. Impatience ſucceeded to his doubts; day paſſed after day without confirmation of the fact; and at length when due allowance had been made, and calculation was exhauſted, he diſpatched parties different ways in ſearch of Nearchus, either to find him out if he were upon his road, or, if found, to protect him from the natives: but when ſeveral of theſe parties returned without ſucceſs, concluding the governor's information was a deluſion, he ordered him into confinement, not without the ſevereſt reproaches for rendering his vexation more acute from the diſappointment of his hopes.

In this ſtate of ſuſpenſe he continued for ſeveral days, manifeſting by his outward deportment the anguiſh he ſuffered in his heart. Nearchus, however, was actually on the road; and, while he was proceeding with Archias and five or ſix others in his company, fortunately fell in with a party from the army, which had been ſent out with horſes and carriages for his accommodation. The admiral and his attendants, from their appearance, might have been paſſed unnoticed. Their hair long and neglected, their garments decayed, their countenance pale and weather-worn, and their perſons emaciated

by

by famine and fatigue, ſcarcely rouzed the attention of the friends they had encountered. They were Greeks, however, and of Greeks it was natural to inquire after the army, and where it was now encamped. An anſwer was given to their inquiry; but ſtill they were neither recogniſed by the party, nor was any queſtion aſked in return. Juſt as they were ſeparating from each other, "Aſſuredly," ſays Archias, "this muſt be a party ſent out for our "relief; for on what other account can they be wandering about "the deſert? There is nothing ſtrange in their paſſing us without "notice, for our very appearance is a diſguiſe. Let us addreſs them "once more, and inform them who we are, and learn from them "on what ſervice they are at preſent employed." Nearchus approved of this advice, and, approaching them again, inquired which way they were directing their courſe? "We are in ſearch of "Nearchus and his people," replied the officer;—and "I am "Nearchus," ſaid the admiral; "and this is Archias; take us "under your conduct, and we will ourſelves report our hiſtory to "the king." They were accordingly placed in the carriages, and conducted towards the army without delay. While they were upon their progreſs, ſome of the horſemen, impatient to carry the news of this happy event, ſet off for the camp to inform the king, that Nearchus and Archias were arrived, with five or ſix attendants, but of the reſt they had no intelligence. This ſuggeſted to Alexander, that perhaps theſe only were preſerved, and that the reſt of the people had periſhed, either by famine or ſhipwreck; nor did he feel ſo much pleaſure in the preſervation of the few, as diſtreſs for the loſs of the remainder. During this interval, Nearchus and his attendants arrived. It was not without difficulty that the king diſcovered who they were, under the diſguiſe of their appearance; and

this circumſtance contributed to confirm him in his miſtake, imagining that both their perſons and their dreſs beſpoke ſhipwreck, and the deſtruction of the fleet. He held out his hand however to Nearchus, and led him aſide from his guards and attendants, without being able to utter a word; as ſoon as they were alone, he burſt into tears, and continued weeping for a conſiderable time; till at length recovering, in ſome degree, his compoſure, "Nearchus," ſays he, "I feel ſome ſatisfaction in finding that you and Archias have "eſcaped; but tell me where, and in what manner, did my fleet and "my people periſh?" "Your fleet," replied Nearchus, "is all ſafe, "your people are ſafe, and we are come to bring you the account "of their preſervation." Tears, but from a different ſource, now fell much faſter from his eyes; "Where, then, are my ſhips?" ſays he. "At the Anamis," replied Nearchus: "all ſafe on ſhore, and "preparing for the completion of their voyage." "By the Libyan "Ammon, and the Jupiter of Greece, I ſwear to you," rejoined the king, "that I am more happy at receiving this intelligence, than in "being the conqueror of all Aſia; for I ſhould have conſidered "the loſs of my fleet, and the failure of this expedition, as a "counterbalance to all the glory I have acquired."—Such was the reception of the admiral, while the governor, who was the firſt bearer of the glad tidings, was ſtill in bonds: upon the ſight of Nearchus, he fell at his feet and implored his interceſſion. It may be well imagined that his pardon was as readily granted as it was aſked.

The joy was now univerſal through the army; a ſolemn ſacrifice was proclaimed in honour of Jupiter the preſerver, of Hercules, of Apollo the averter of deſtruction, of Neptune, and every deity of the ocean: the games were celebrated, and a ſplendid proceſſion exhibited,

exhibited, in which Nearchus was the principal ornament of the pomp, and the object which claimed the attention of every eye. Flowers and chaplets were wreathed for his head, and ſhowered upon him by the grateful multitude, while the ſucceſs of his enterpriſe was proclaimed by their acclamations, and celebrated in their ſongs. At the concluſion of the feſtival, the king informed Nearchus, that he ſhould no longer expoſe him to the hazard of the ſea, but ſend down ſome other officer to conduct the fleet to Suſa. "I am bound to obey you," replied the admiral, "as my king, "and I take a pleaſure in my obedience; but if you wiſh to gra- "tify me in return, ſuffer me to retain my command, till I have "completed the expedition. I ſhall feel it as an injuſtice, if, after "having ſtruggled through all the difficulties of the voyage, another "ſhall finiſh the remainder almoſt without an effort, and yet reap "the honour of completing what I have begun." Alexander, ſcarcely permitting him to conclude his requeſt, granted all that he deſired, and ſent him down again to the coaſt, with a ſmall eſcort; not ſuppoſing that there was any danger in the neighbourhood of the army, or in a country which ſeemed to be ſufficiently ſubdued: but in this he was miſtaken; the Karmanians reſented the depoſition[78] of their ſatrap, and had in conſequence taken up arms, and ſeized ſome of the ſtrong places in the province; while Tlepolemus the new-appointed governor had not yet had time to eſtabliſh his authority. It happened, therefore, that Nearchus encountered two or three parties of the inſurgents on his march, and reached his deſtination at laſt, not without conſiderable diffi-

[78] See a note of Gronovius's upon τετελευτήκει, on this paſſage; who proves, that it does not mean "put to death," but "depoſed," p. 352.

culty. Upon joining again the companions of his voyage, he ſacrificed to Jupiter the preſerver, and exhibited the uſual games[79] for his ſucceſs.

The interview of Alexander and Nearchus needs no comment; but I cannot ſet the fleet afloat again till I have obſerved, that there is nothing in the original to contradict the conjecture I have made, that Nearchus took the route of Mina to croſs the mountains, in his way to Giroft; that he had paſſed them, and was on his fifth day's journey, when he met with the party which conducted him to the army; and that the enemy he encountered on his return were probably ſtraggling bodies who had ſecured themſelves in the paſſes above Mina[80]; it appears likewiſe that the ſtrong poſts they had ſeized were in the ſame part of the country, and perhaps occupied with a view of intercepting the communication between the army and the coaſt.

By reſcinding ten days from the journal, I brought the fleet to the Anamis on the tenth of December; and if we allow Nearchus to have ſet out on the thirteenth for the camp, ten days for his journey, and three days for his continuance there, brings our account to the twenty-ſixth: he did not, however, ſail immediately on his return; his ſacrifice and his games occupied one day at leaſt; the

[79] The king celebrated an ἀγῶνα μουσικὸν καὶ γυμνικόν; Nearchus's was only γυμνικόν. The μουσικὸς, or trial of mental talents, ſeems always to have made a part of Alexander's games; the γυμνικὸν, that is, the trial of bodily ſtrength, or addreſs, was ſuitable to the ſituation of Nearchus; he had probably no μουσικοι, bards, orators, or muſicians in his company.

[80] Niebuhr writes this name Minau; and ſays it is ſome leagues from the coaſt. He did not viſit it; and therefore his diſtance muſt be from report. Vol. ii. p. 142. Eng. edition. But I have no direct authority for fixing either Mina or the Anamis preciſely. If d'Anville is correct, the ſite I give for the river is too much towards the ſouth; and if I am miſtaken, the meaſures of Arrian miſlead me. His error, if proved, muſt lie between Neoptana and the Anamis. Some of our Engliſh officers who have been at Gomeroon muſt be able to determine the poſition of the river Ibrahim.

launching of his veſſels and preparation for ſailing may be ſuppoſed to employ two more; ſo that there can be no material error in aſſuming a date of ſome importance, the firſt of January in the year three hundred and twenty-five A. C. for his departure from the Anamis. We may conclude, alſo, that Alexander and Hephæſtion proceeded on their ſeparate routes[81] a few days previous to this date; and this ſuppoſition will be ſufficient to juſtify Arrian's aſſertion, that the march of Hephæſtion commenced in WINTER.

OARACTA ISLAND. January 1. A. 325. Firſt ſtation.

The fleet is now to take a new departure with the commencement of the new year; and the firſt day's progreſs is nearly nineteen miles, to the iſland of Oaracta; in the courſe of which, a deſert iſland was ſeen called Organa, the celebrated Ormuz of modern geography. Slight as the mention of this place is in the journal, it would be inexcuſable to paſs in ſilence one of the moſt extraordinary marts of commerce in the world. Oaracta is the modern Kiſmis[82]; between which and the Mina river, or Anamis, lie two ſmall iſlands called Ormuz and Arek: the latter is uſually written L'Arek[83], with the article; it is not mentioned by Arrian; and, upon conſulting the map, it will immediately appear that the courſe of a Greek fleet would neceſſarily lead to Organa, or Ormuz, which is neareſt the coaſt, rather than to L'Arek, which is the more diſtant. They are all three mentioned by Ptolemy; but with ſo much confuſion, that ſome ingenuity is requiſite to develope them. Mercator's chart[84] exhibits a Tylos and Arathos[85] towards the entrance of

[81] Theſe two routes join again, according to Pietro della Vallé, within a ſhort diſtance from the modern Schiraz. Vol. v. p. 351.

[82] Dsjiſm, Dsjes, Drâs, of Niebuhr. Kiſmis, Kheſem, written Queixomo of the Portugueſe.

[83] Lareſdsj of Niebuhr.

[84] Tab. vi. Aſia.

[85] The Tyrus and Aradus of other authors. Dionyſius Per. They are in reality the iſlands of Bahrein, however miſplaced.

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the gulph, intended for two ſmall iſlands, but tranſpoſed to the coaſt of Arabia[86]; and an Aracca, or Iſland of Alexander, far to the north. I ſhall firſt account for this variation of names. Salmaſius[87] ſays, that Arrian is miſtaken in placing the tomb of Erythras, a king who gave name to the Erythræan Sea, in Oaracta; for other authors allot it to Ogyris, the ſmaller iſland; and Ogyris, he informs us, is the Organa of Arrian.

Unfortunately, modern ſcepticiſm has deſtroyed the credit of King Erythras. It is now an opinion generally received, that the Red Sea is the Idumæan Sea, or Gulph of Arabia, taking its name from Edom[88], or Eſau, the Arabian patriarch; and Edom ſignifies *red*[89]. The Arabians were doubtleſs the firſt navigators of the Indian ocean, and as they entered that ſea by paſſing the ſtraits of Bab-el-mandeb[90], they carried the name of the Red Sea, from whence they commenced[91] their courſe to the utmoſt extent of their diſcoveries. Hence the Indian Ocean received the title of Red; and the Greeks,

[86] The error is not Mercator's. He places them according to the longitude and latitude of Ptolemy.

[87] Plin. Exercit. p. 1180. et ſeq.

[88] אדום. Edom Hebraicè rubrum ſignificat ut teſtatur Moſes. Geneſ. xxv. 30. Nec vero eſt abſimile quod hodie docti contendunt mare Rubrum inde eſſe dictum. Nam à mari Rubro allui terram Edom vel ex Scriptura compertum. Vid. i. Reg. ix. 26. דם. Sanguis ab אדום per aphæreſin. Bochart, vol. i. p. 769.

King Solomon made a navy of ſhips in Ezion Geber, which is beſide Eloth, on the ſhore of the Red Sea, in the land of Edom. ים סוף. *The weedy Sea* is the term here uſed to expreſs the Red Sea, and appears properly applied by the account of other authors. See Parkhurſt in voce. But there is another derivation, ſignifying an *end* or *extremity*; and perhaps, therefore, Im-ſuph may mean one of the heads or bays of the Red Sea, as divided into two parts at its northern extremity. See Queſtions of Michaelis. Niebuhr.

[89] The Arabs, or at leaſt the Orientals, delight in theſe appellations. Thus, the Euxine is the *Black* Sea, the Propontis is the *White* Sea, the Mediterranean is the *Blue* Sea, and the Indian Ocean the *Green* Sea.

[90] The gate of death, or mourning. Coſmas Indicopleuſtes, though he gives an account of Ceylon, ſeems never to have paſſed this ſtreight.

[91] I cannot cite my authority, but I know there is evidence to prove, that the vaſt country of Siberia derives its name from a village called Siberia; near which the Ruſſians firſt entered that country.

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who tranſlated every thing rather than introduce a foreign word, made it the Erythræan Sea. Not contented, however, with this, they uſually found a god, a hero, or a king, whoſe name or ſtory muſt be connected with the derivation; and hence we have Erythras for the preſent purpoſe. But neither Arrian nor his countrymen ever conſidered that Erythras, in order to give his name to the Erythræan Sea, ought[92] to have reigned, or to have been buried, ſomewhere on the Gulph of Arabia; for that is the original Red Sea, and the ſource of that name, which was afterwards applied to ſo large an extent. Without reſpect, therefore, to Erythras, the utmoſt we can ſuppoſe is, that there was a tomb on this deſert iſland viſited by the natives of the coaſt; a ſuperſtition prevalent all over the Eaſt from the earlieſt ages, and ſtill in full vigour, as well among the Mahometans as the other caſts. Ogyris, therefore, we will aſſume, as one of the names of Organa, from Dionyſius[93] Periegetes; Tyrine as a ſecond, from Strabo, Pliny, and Philoſtratus[94]; and Turun as a third, which is a title of the moderns. Now it is remarkable, that Voſſius propoſes to read the Tyrine of Strabo either O-Gyrine[95], or Gyrine ſimply, to make out a correſpondence between the two; and I have before ventured a conjecture, that the Organa of Arrian ſhould have its ſyllables tranſpoſed, by reading

[92] It is not meant to aſſert, that the Gulph of Perſia is not comprehended in the general title Erythræan.

[93] D'Anville Diſſert. p. 147.

[94] Philoſtratus is here quoted from d'Anville; but he has not been neglected, though little was obtainable from his account. Whoever will take the trouble to refer to that work, will find that Apollonius, or his hiſtorian, has built that part of his novel which relates to India, entirely on the accounts of the Macedonians. He enters India by the ſame route, and returns by the ſame; and from this line the author did not dare to depart.

[95] Ὠ-Γυρινη, or, Γυρινη, for ΤΥΡΙΝΗΝ. See d'Anville, ibid.

O-G'rana,

O-G'rana[96], or O-Gerana. Thus it is evident that Gerun, the name of the iſland previous to its taking the name of Ormuz, is a native title as early as the days of Alexander; preſenting, under one form, Gyrine and O-Gerana, and under another, that of Djerun, Tyrine, and Turun[97], by the change of D into T. The palace of the kings of Ormuz on this iſland was called Turun-baque, as d'Anville informs us; which, if written Turun-bach or Turun-bah, might be rendered *the garden of Turun*[98]; and Turun is no more than the name of the prince, derived[99] from the place of his reſidence, Turun, Tyrine, Djerun, Gerun; a practice univerſal in the Eaſt. Salmaſius does not appear to know any thing of the modern Arek, and therefore confounds it with Oaracta; and the ſame prevalent confuſion among authors has turned Tyrine into Tyros and Tylos[100], Aracca into Aradus and Arathos: hence it is, that the names of Tyrus and Aradus have been tranſplanted from Phœnicia[101], on the

[96] Strangely as theſe tranſpoſitions may appear to a claſſical eye, the reality of them is univerſal almoſt in Oriental names; whether from the ignorance of the natives, or the miſtake of inquirers, is dubious. Aſtrakan is by the inhabitants pronounced Aſtarchan, by the Perſians Agitarcan. P. della Vallé, tom. iii. p. 205.

[97] So Tſor, Turus, Tyrus; and Sor, Sour, Sarr-anus; ſee *infra* Tarſia. See Michaelis's Extract from Niebuhr, p. 34.

[98] D'Anville mentions a Turun Shah, who was an hiſtorian. Turun Shah is king of Djerun. He wrote a hiſtory of Ormus, tranſlated by Texeira into Portugueſe; by him called Torunda. Dalrymple.

[99] Thus Taxiles from Taxila, Porus from Lo-Pore.

[100] Tylos, in Arrian, p. 301. is the modern Bahrein, where the pearl-fiſhery is eſtabliſhed on the Arabian ſide of the gulph, and as ſuch d'Anville conſiders it in his ancient geography: but Ptolemy's Tylos is in the latitude of Ormus; and, though carried to the Arabian ſide, manifeſtly confounded with Tyrine, or Gerun. If he has any thing like Bahrain, it is Ichara.

[101] Strabo ſays, Tyrus and Aradus are ten days' ſail from Teredon, and one from Macæ. Mr. Goſſelin makes a pleaſant ſuppoſition, that they are ten days' ſail from Macæ and one from Gerra. Geog. des Grecs, p. 28. This is not a miſtake, but an hypotheſis. See another equally bold, p. 53.

Mediterranean

Mediterranean, into the Gulph [102] of Perſia, as if mariners [103] brought from thence had carried the names of their country with them. There is, in fact, a double error, for the Tylos of Arrian [104] is undoubtedly the largeſt of the Pearl iſlands, now called Bahrein [105], and one of the ſmaller is named Arâd by Niebuhr [106] at the preſent hour. This Tylos and this Arâd give the Tyrus [107] and Aradus of Strabo, the Tylos and Arathus of Ptolemy however miſplaced, and both ſeem to have been brought down to the mouth of the Gulph by an accumulated confuſion with Tyrine and Aracca [108], the modern Ormuz and L'Arek. The ſite aſſigned by Strabo, and the latitudes of Ptolemy, will prove this aſſertion as clearly as the diſtorted map of Mercator, and the error of Strabo in deducing the Tyrians [109] and Aradians of the Mediterranean from theſe iſlands in the Gulph of Perſia, is conſonant to the perpetual vanity of the Greeks who reduce every thing unknown to the ſtandard of their own fabulous hiſtory.

The iſland of Ormuz is a barren rock, evidently formed by a volcano, the veſtiges of which ſtill remain on a mountain, which ex-

[102] There are different poſitions aſſigned to theſe two iſlands by different authors, Euſtathius, &c.: but a view of Mercator's map, tab. vi. Aſia, ſhews at one view the ſource of the error. Aracca, Ptol. p. 149. *Tylus, Aradus*, p. 156. in the margin, *Tyrus, Arathos*, iſlands in the Gulph of Perſia. If farther information is required, I refer to Salmaſius, p. 1180:—a very long and unintereſting diſſertation, with much learning and many errors: he conſulted every thing but modern authority; and that alone could have ſet him right.

[103] Strabo ſuppoſes exactly the reverſe, p. 766. and p. 784.

[104] See Arrian, p. 301.

[105] Bahrein is the Ichara of Ptolemy. Oſorius, vol. ii. p. 329.

[106] See his map of the Gulph.

[107] Liquidas R et L omnes ſciunt eſſe maximè permutabiles. Bochart. Phal. p. 689.

[108] Ptolemy's Aracca is near Buſheer, and is poſſibly the Ara or L'Ara of d'Anville, the Schitwar of the Engliſh charts, ſtill miſplaced.

[109] Tyre is from Tſor, Tor, Tur. And Michaelis's Extract from Niebuhr, p. 34. ſays, Niebuhr found a Tor in the Gulph of Perſia, of importance to geography. I cannot find it in Niebuhr, as Michaelis quotes from the German edition.

tends from one end of the iſland to the other; the ſoil is a white ſalt, hard enough to be uſed for building; the fort and the houſes were conſtructed of no other materials; there is no ſpring or water but ſuch as is ſaved from rain, and rain falls ſeldom; no plant or vegetable, but a few at the king's palace [110], ſet in earth, brought from the continent; and the Portugueſe, to ſecure a ſupply of water, were conſtrained to maintain a fort on Kiſmis; the heat is intolerable; in ſummer the inhabitants lie plunged in water, for many hours; in winter they ſleep on the terrace of the houſe in the open air. Yet even here could commerce fix her ſeat, and the Portugueſe who took it under Albuquerque, in the year one thouſand five hundred and ſeven, kept poſſeſſion till one thouſand ſix hundred and twenty-two, when it was again reduced under the power of Perſia by Abbas the Great, with the aſſiſtance of the Engliſh fleet. It had, from the convenience of its ſituation, become, in the hands of the Portugueſe, an emporium ſecond to none but Goa; and it is remarkable that they preſerved the race of native kings from the ſame policy which has made the Engliſh ſupport the nominal princes in Bengal, and on the coaſt of Coromandel. When the place was taken, the laſt king was conveyed as a priſoner up to Iſparhan through Lar, at the time Pietro della Vallé was reſident in that city. He had the generoſity to communicate his kind wiſhes to the unfortunate prince, and viſiting Ormuz himſelf a few months afterwards, bears teſtimony to the bravery of the Portugueſe in its defence. Abbas intended to annihilate the city, and tranſplant the commerce to Gomeroon, which

[110] The king's palace was on the ſouth-weſt ſide of the iſland with the garden Turun-bach, noticed before. D'Anville mentions a Turun-Shah, or king of Ormus, who was an hiſtorian. His hiſtory, I underſtand, has been tranſlated into Portugueſe by Texeira. Dalrymple.

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he thenceforth ſtyled Bender-Abbaſſi, the port of Abbas; but he broke his faith with the Engliſh, who were to have had half the produce of the duties for their aſſiſtance, and Bender-Abbaſſi ſoon became deſerted from the uſual oppreſſion of the government. While Ormuz was the ſeat of commerce, it invigorated all that part of the Perſian empire which borders on the Gulph; and however its fall impaired the power of the Portugueſe, its conquerors gained nothing by their ſucceſs: the Engliſh commerce declined till they almoſt abandoned it from diſguſt, and the neighbouring provinces of Perſia ſunk under their natural aridity. A few veſſels ſtill continue to frequent the Gulph from the ſettlements in India, but the trade is of no very great importance. In the ruin of Perſia, ſince the death of Nadir, a Perſian, with the title of Mulla Ali Shah, is maſter of Ormuz, as Niebuhr informs us; but his reſidence ſeems to be at Gomeroon, as I collect from the journal of the Houghton Indiaman, which mentions a ſimilar name at that city [111]. This is the laſt account I find of this once celebrated ſpot; and in this ſituation it is likely to continue, unleſs the Perſian empire ſhould again revive, of which there ſeems no immediate proſpect.

Ormuz has two ſafe ports, one on the eaſt and the other on the weſt ſide; it is three leagues from the coaſt of Perſia, and three or four in circuit. Mr. d'Anville ſays it is leſs than L'Arek [112]; but all our Engliſh charts repreſent it larger; and as M'Cluer viſited both, his teſtimony has great weight. According to Dalrymple [113], its

[111] That journal is dated one thouſand ſeven hundred and fifty-five; and Niebuhr was in Perſia nine or ten years afterwards. If it is the ſame man, he has had a long reign, conſidering the time he lived in.

[112] L'Arek is one league and a half from Ormuz. Cutler, p. 85. Dalrymple's Collection.

[113] P. 38.

latitude is 27° 4′ 22″ north. The beſt [114] paſſage is between Ormuz and the main, and by this I conclude Nearchus ſailed, not only from its ſafety, but becauſe he kept the ſhore in view. In his time Ormuz was without inhabitants as L'Arek [115] is at preſent, unleſs when frequented by parties of Arabs, who make it a ſtation both for fiſhing and piracy. Here alſo, among other places of ſepulture, the tomb of Erythras is ſometimes fixed; and however the iſland itſelf may be diſplaced, the name of Aracha and Arakia [116] is preſerved by Pliny and Ptolemy. It is a little ſtrange that Pietro della Vallé [117], who made a tour to this ſpot, mentions ſepultures, not indeed of kings but former inhabitants; and all theſe iſlands being ſubject to the depredations of Arabs from one ſhore, or Perſians from the other, it is highly probable, as they afford alſo aſylums for any chief or tribe oppreſſed on either ſide, that they are both occupied and deſerted occaſionally. The tombs alſo of moſt eaſtern nations being built of materials more durable than their houſes, places of ſepulture would of courſe preſent themſelves to all who landed on a deſerted ſpot. Such may be the origin of the mythology concerning the tomb of Erythras; and the ſight of tombs in various iſlands may have cauſed different voyagers to attribute it to different places. I ſhould indeed carry Erythras and the tradition concerning him to the weſtward of Oaracta, inſtead of the eaſt; for there are two iſlets there called to this day Great Tomb [118] and Little Tomb, and if theſe are Portugueſe names, there will be reaſon to ſuppoſe,

[114] Cutler, p. 85.

[115] Pietro della Vallé mentions that the Captain of the Engliſh veſſel on board which he ſailed, ſent his boat aſhore at L'Arek with dogs, which returned loaded with game and goats. We ſhall find Arrian mention goats on the deſert iſlets of the Gulph.

[116] Salmaſius very raſhly converts both names into Oaracta. 1180. Plin. Exer.

[117] Tom. vi. p. 232.

[118] I am ignorant of the etymology. Niebuhr writes Tunb.

that

that the tradition of a tomb erected to ſome hero, king, or ſaint, continued down to the age of the Portugueſe diſcoveries.

By viewing the iſland L'Arek in the different charts, ſufficient reaſon appears why it is not noticed by Arrian; for as the courſe of the fleet is directed round Ormuz, and confined to ſomewhat leſs than nineteen miles, it neceſſarily terminates at the eaſtern point of Kiſmis, without notice of L'Arek. Mr. d'Anville ſuppoſes two anchorages, including one at Bender-Ser, previous to the arrival at Kiſmis; but the diſtance in his own map requires no great allowance to be made, and the general meaſure ſpecified by the others is more favourable to the eſtimation I have aſſumed.

ORACTA. Ninety-ſecond day. January 1. Anno 625.

The Oaracta of Arrian is written Ouoroctha or Woroctha by Ptolemy, being thus united with the Wroct or Vroct[119] of the moderns; and Oracla[120], which is the older reading in Pliny, is as manifeſtly a corruption of the ſame, as the Doracta[121] of Strabo, however diſtorted from a different cauſe. The modern name is Kiſmis, varied by a multiplicity[122] of orthography, and deriving its meaning poſſibly from the Perſic, in which language Kiſmis ſignifies ſmall grapes[123] without ſtones, for the iſland is mentioned by Arrian as affording the fruit of the vine, and veſſels from different parts of the Gulph ſtill lade raiſins in its ports. Niebuhr has added a name that throws every other at a diſtance, Dsjesîret

[119] I do not find d'Anville's authority for the modern name, but ſuppoſe it to be Oriental.

[120] The commentators who knew nothing of Oracla corrected it Organa, which was known; but never was a more unfortunate addition than what follows in Pliny. Organa habitatur tantum, *aquoſa*. See d'Anville.

[121] See Strabo, 767. Salmaſ. 1180.

[122] Keſem, P. della Vallé; Kiſhmee, Kiſhma, Kiſhmich, Queixomo. Portug. &c. &c.

[123] Thevenot, part ii. p. 69. Eng. edit. Their officinal name in England is Sultana, or Sultanie grapes.

Drâs;

Drâs [124]; and though we ſee that he expreſſes Kiſmee by Dsjeſme, we are at a loſs for the final Drâs, and ſhould have been obliged to the Oriental ſcholar for an etymology.

The point of Kiſmis, which we ſuppoſe the fleet to have reached, cannot be far diſtant from a fort occupied by the Portugueſe while maſters of Ormuz, which was neceſſary for ſupplying them with water, and which they defended bravely, under the command of Rui Freira, againſt the forces of Perſia, till the Engliſh [125] joined in the attack with their artillery. The officer in command here, when Nearchus arrived, was Mazenes [126], a Perſian, who offered himſelf voluntarily to take charge of the pilotage, and upon the acceptance of his ſervices he came on board, and did not quit the fleet till after its arrival at the Paſitigris.

OARACTA. Second Anchorage. Ninety third day. January 2. Day allowed.

No diſtance ſuits leſs than the following courſe from this point to a ſecond anchorage in the ſame iſland, which from mention of an iſlet in the offing muſt be the Angar or Angan of our modern charts, and requires a courſe of almoſt thirty miles, while the journal allows but twelve and a half; and this is the more extraordinary, as the meaſure of two miles and a half given for the diſtance between Angar and the coaſt, is as correct as the corrected chart of M'Cluer. This iſlet, as the journal informs us, was inacceſſible, and ſacred to Neptune; inacceſſible, perhaps, from ſome native ſuperſtition, like

[124] Dsjeſîret Drâs is the Perſian name. Dsjeſîret Tauîle, Arabian. It is called Loft or Left by ſome Europeans, from a town of that name; and Kiſmee by others, from Dsjiſme, another town. Niebuhr, vol. ii. p. 185. French. ed. Amſterd. ed. Arabie, p. 268.

[125] In the year one thouſand ſix hundred and twenty-one, and when P. della Vallé was here the following year, he was well received by the Engliſh, who carouſed all night, and formed a hunting party for him the next day, on the iſland of L'Arek.

[126] Called Amazenes by Strabo, p. 767. ſufficiently confuting his own aſſertion, p. 732.; where he makes Nearchus ſay, he had no guide: but the paſſage is ſuſpected.

that attending the retreat of the Nereid in the Indian Ocean, and ſacred to Neptune in a ſenſe we do not underſtand. The Greeks attributed the names of their own deities to thoſe of other nations, adorned with ſimilar ſymbols; and as there is a pagoda[127] on this ſpot at preſent, it is by no means impoſſible that the repreſentations on its walls, if antique, might ſtill unravel the ſuperſtition alluded to in the Greek Neptune[128].

Nearchus makes the iſland of Oaracta fifty[129] miles long, which Mr. d'Anville conſiders as ſpecifying that part of the coaſt only which was paſſed by the fleet; but this ſolution is not juſtified by the text, and in reality no great allowance is neceſſary, the charts make it ſhort of a degree, and a circumſtance which occurred on departing from Angar, prevented the weſtern extremity from being noticed: we might rather have expected, perhaps, that the fleet ſhould have navigated the channel between Kiſmis and the main, than ſtand out to the ſouthward of the iſland in the open ſea; and ſuch a courſe as this we have ſeen preferred upon approaching the river Arabis; but by making the eaſtern point of Kiſmis, it appears as if Nearchus was in doubt which route he ſhould prefer, and was determined in his choice by procuring the aſſiſtance of Mazenes.

There is ſtill a paſſage open between Kiſmis and the main, though little uſed, and between Angar and Kiſmis. Angar[130] has good water, with plenty of wild ſheep and goats, as ſeveral of theſe iſlets ſeem to have, for the ſupply of mariners, fiſhermen, and pirates. We ſhall hereafter find one ſpecified by Arrian, under the protection of Mercury and Venus, and poſſibly both the goddeſs

[127] M'Cluer, Lieut. Cant.

[128] In reality Poſeidon; for Neptune is an Italian deity.

[129] Eight hundred ſtadia.

[130] M'Cluer, p. 17. Dalrymple's Preface, p. 11. The iſle is a league in length.

and

and Neptune were preſiding deities, who preſerved the animals landed on theſe ſpots, till the breed was eſtabliſhed. Both the bay in which Angar lies, and the iſle itſelf, are vaguely defined; but the ſecond chart of M'Cluer is probably correct.

No day is ſpecified before their departure from the anchorage at Angar, but I allow one here, as in the former part of the voyage, and leave the correction, if any error ſhould ariſe, to the concluſion of the narrative.

An Island. January 3. Ninety-fourth day. Great Tombo.

Weighing from Angar, the fleet proceeded, apparently, with an intention to double the weſtern end of Kiſmis, and return upon the coaſt of the main; but having ſailed too late on the tide of ebb, three of the gallies grounded on a ſhoal of Baſſidu, which runs out from the weſtern point of Kiſmis, and were ſo long detained, that they did not join the reſt of the fleet till two days after. In conſequence of this accident, ſuch of the veſſels as were not ſo near the ſhore, or ſo far involved in the difficulty, drew off to the ſouth-weſtward, and extricating [131] themſelves from the ſhoal with great exertion, got once more into deep water.

A glance at the chart will prove the correctneſs of the journal in this inſtance better than diſcuſſion; for they got on ſhore by ſtanding too much to the north-eaſt, and eſcaped by hawling off in an oppoſite direction. This brought them, contrary to their intention, to the iſle at preſent called Great Tomb, or Tumbo, after a courſe of

[131] χαλεπῶς διεκπλώσαι τὰς Ρ'ΗΧΙ'ΑΣ, ἐς τὰ βάθια διαπεσώθησαν, p. 353; è *rupicoſis* locis enavigantes; potius, è *brevibus*.

I have already ſufficiently noticed the perpetual error of the tranſlators in regard to ῥηχίας. It is evidently in this inſtance oppoſed to βάθια; and, what is ſtill a greater confirmation, we have this ſhoal laid down in all our charts as a ſand, and not as rocky or broken ground.

forty

forty miles, which marks the diſtance [132] as nearly juſt as it could be fixed by obſervation.

Another diſtance is given of about nineteen miles from the continent, which does not correſpond; for the neareſt part of the main meaſures thirty-five miles; but if we take the ſpace between the weſtern end of Kiſmis and Great Tumbo, it is as exactly nineteen miles as the opening of the compaſſes will give; and it is reaſonable to eſtimate Kiſmis as continent in reſpect to ſuch an iſlet as Tumbo.

The two iſlets called Tumbo [133], if the appellation is Portugueſe, have doubtleſs ſome alluſion to a ſepulture, either ancient or modern, and poſſibly ſome Marabout, or Imam, is reverenced here, as a ſucceſſor either to an Hindoo ſaint or deity, or even Erythras himſelf. Such ſucceſſors to the deities of Rome and Greece we find in the Roman catholic countries; and ſuch, as it is ſaid, are not unfrequent in the Eaſt.

The Great Tumbo is deſcribed as an iſle one league in length, from eaſt to weſt, with half that extent in breadth; it is reſorted to by Arabs who come to fiſh, and has a ſandy bay to the eaſtward, where the landing is convenient. Water, and probably goats, may be procured here; but it is uninhabited, and remarkable for a ſhoal running out ſix or ſeven miles to the ſouthward; its latitude is 26° 12′ [134], or, as corrected by Mr. Dalrymple, 26° 24′ 17″.

The following morning the fleet, after weighing, directed its courſe towards the main; and a view of the ſhoal off Kiſmis on

[132] The firſt is alſo called Naze, and the ſecond is Nabgion, Nabgian, Nabejou, &c. Namin by Niebuhr.

[133] It is to be underſtood that I ſpeak hypothetically of the two Tombs. Niebuhr writes them Tunb.

[134] Lieutenant M'Cluer, from Lieutenant Cant, p. 40.

the right, with the iſland Polior on the left, direct us evidently into the bay formed by Cape Sertes on the eaſt, and Cape Buſtion on the weſt, in the firſt chart of M'Cluer. Other charts tranſpoſe theſe capes, as Mr. d'Anville has done, for his Buſtion, both town and cape are on the eaſtern point of the bay, and his Gherd [the Certes or Sertes of our Engliſh charts] is on the weſtern extremity. A variety of the authorities before me place a town on the eaſtern promontory, and, whatever its name be, here I place the Sidodone of the journal. In this I am directed principally by the ſhoal off Baſidu, or Baſſadore, at the weſtern extremity of Kiſmis; for if it is natural that a Greek fleet ſhould ſeek the coaſt again as ſoon as it was clear of the iſland, and had purſued a courſe the day before for that purpoſe, till deterred by the ſhoal; it is plain, the ſame object was in view upon departing from Tumbo, and that the courſe pointed as directly to the main as the extremity of the ſhoal would allow. On this ſhoal there is one obſervation worth recording; which is, that according to the inſtructions given to the Engliſh officers who navigate the gulph, "the ſhoal[135] off "Baſſadore, though it ſtretches out a great way to ſea, is a bank of "ſand, and not dangerous." This accords perfectly with the accident which befell the fleet, as well as the eſcape from it, and confirms the aſſertion made all along, that the Greek term rendered rocky ground, is every where miſtaken; for wherever there is ſhallow water, a rippling, or a ſurf, there only, in this journal, it is applicable.

SIDODONE. January 4. Ninety-fifth day. SISIDONE of Gronovius.

The iſland Pylora[136], ſeen in this day's courſe to the left, fortunately retains ſtill its ancient name, and is written Peloro, Polior,

[135] Niebuhr, in Dalrymple's Collection, p. 52.

[136] It is viſible at ſeven leagues diſtance. M'Cluer, p. 19.

Belior,

Belior, in the ſeveral charts; it is deſcribed as ſix miles long, and three in breadth, with a reef of rocks on the north-weſt ſide, lying in latitude 26° 22′ 7″. The fleet did not anchor at it, as it was ſaid to be deſert, but paſſed on to Sidodone, where no ſupply was found but fiſh and water; the country being poor, and the people living like Ichthyophagi. Strabo, who finds a Tyrus and Aradus in the gulph, is ſaid by Gronovius and Ortelius to turn Sidodone alſo into a city of the Sidonians, for ſuch was the faſhion of Greeks to reduce every ſound [137] to a relation with ſomething within their own knowledge. The poſition of Sidodone is not difficult to determine, if our charts are correct, for many of them place a town at the point called Sertes by M'Cluer, and the diſtance from hence to the weſtern point of the bay anſwers to Arrian's meaſure of nineteen miles to Tarſia [138]. I have already noticed the diſagreement of d'Anville and M'Cluer, in the tranſpoſition of the two capes, which is well worthy of conſideration; for though Sidodone is an obſcure place, and the difficulties minute, the fixing of a poſition is material, as an error at the beginning might vitiate the whole ſeries. To prevent deception, therefore, I muſt firſt ſtate, that M'Cluer [139] mentions Suráſs, or Saráſs, as a place he anchored at to the eaſtward of his Certes; this anſwers nearly to the Sannás of d'Anville, which he makes the termination of a range of mountains; and here there is a town, for ſuch M'Cluer marks; and here he procured ſtock for his voyage. The next point weſtward he calls Certes, and adds that it is viſible from the Tombs, on leaving which you are to ſteer

[137] Thus Nyſa and Meros, or Merou, were names they found in India, and immediately made out a connexion with Bacchus.

[138] Jarſey, for Certes or Ghirde, appears in one of Thornton's charts.

[139] P. 18.

weſt for the iſle of Polior. If, therefore, we obſerve that Nearchus was at Tumbo, we have here his courſe pointed out to the cape, and his iſland Pylora on the left, as diſtinctly as if M'Cluer had been on board the fleet. M'Cluer next points out a ſecond cape twenty miles to the weſtward of Certes, which he ſtyles Beſtion (the Tarſia of Nearchus); and between theſe two capes, he ſays, there is a town called Charrack. Now M'Cluer may have miſnamed Certes, Beſtion, and Charrack; but the geography is preciſe, and this town, whatever name it bears, is placed at his Cape Certes by all the other charts, and by d'Anville himſelf. Whatever error, therefore, we may find in names, there is none in fact; for a very ſmall diſtance allowed, in placing the town a little to the weſtward of this Certes, will give the nineteen miles of Arrian from Sidodone to Tarſia; and in this part the journal is peculiarly correct. In regard to names, I do ſuſpect M'Cluer of miſtake, but I am not qualified to decide. Charrack[140], for inſtance, I doubt, becauſe Charrack Hill, the moſt conſpicuous feature on the coaſt, is ſeen to the weſtward of his Beſtion; and therefore I do not diſcover a reaſon for placing a town of that name between the capes, or rather at his Certes, which is above forty geographical miles from Charrack. This town, however, is called Buſtion by d'Anville; and the Certes of M'Cluer, Cape Buſtion: and now, though I am certain I have my geography right, I find it impoſſible to harmoniſe the names to any one ſyſtem[141]. I ſhall therefore give the authorities on both ſides, and leave the deciſion to future navigators on the ſpot.

[140] Charrack (pronounced according to the CH in chariot) is the Tsjarrac of Niebuhr, and the ſite fixed weſt of Tarſia.

[141] See this difference at large in Dalrymple's Collection, tab. v.

TWO CHARTS.

Eaſtern Point.		*Weſtern Point.*	
Certes, or Sertes,	M'Cluer.	Beſtion, -	M'Cluer.
Sertiſs, -	Harvey.	Girde [142]? -	Harvey.
Sertes, -	Cant.	Buſtion, -	Cant.
Sertes, -	Maſcall, 1773.	Buſtian, -	Maſcall, 1773.
Serte -	Van Keulen.	Batanas, -	Van Keulen.

Eaſtern Point.		*Weſtern Point.*	
Buſtion, -	D'Anville.	Gherd, -	D'Anville.
Biſtana, -	Bellin.	Gueldre, -	Bellin.
Baſtion, -	Holmes.	Sertis? -	Holmes.
Biſtana, -	D'Apres, 1745.	Gueldre, -	D'Apres, 1745.
Biſtana, -	D'Apres, 1776.	Gueldre, -	D'Apres, 1776.
Ràs-el-Heti [143]?	Niebuhr.	Râs-el-Dsjerd,	Niebuhr.

In determining this queſtion, therefore, the French authorities agree on one ſide, and the Engliſh and Dutch on the other; and here a queſtion ariſes, whether all the French geographers do not follow Thevenot, as d'Anville confeſſedly does. Thevenot's words are theſe: "We were got off of the other end of Keis, and then "the wind ſlackened much. Half an hour after we came off, and "on a place of the main land, where the ſhore opens towards the "eaſt, and forms a gulph in ſhape of a half circle, and the *outmoſt* "point of that circle is called Gherd." I have not the French

[142] Harvey has made two points of Girde and Sertiſs, which are evidently the ſame.

[143] Niebuhr is not perſpicuous. Râs el Heti is too cloſe to Râs-el-Dsjerd, and his coaſt ill defined; but there can be little doubt that his Dsjerd gives by the s, Sertes and Certes, and by the D, Derd and Tarſia.

edition;

edition; but d'Anville, who quotes it, writes, *La terre où finit ce demicircle eſt appellée Gherd.* Now, though this is not definite, for a ſemicircle has two terminations, ſtill d'Anville determines on Gherd for the weſtern cape, in which he is ſupported by Niebuhr, whoſe teſtimony is of great weight, and his Dsjerd is evidently the weſtern cape and Tarſia [144]. Upon the whole, therefore, I incline to think M'Cluer's topography right, and his names wrong; and as his miſtake in affixing the name of Bombareek to the wrong cape has been noticed before, there is leſs ſcruple in ſuppoſing him liable to a ſimilar error in regard to the whole of this bay.

TARSIA CAPE. January 5. Ninety-ſixth day.

KATAIA ISLAND.

At Sidodone water was procured for the fleet, which, after weighing in the morning, proceeded ſomewhat leſs than nineteen miles to a cape named Tarſia [145], and the ſame diſtance from that point to Kataia, an iſland at the weſtern limit of Karmania. Theſe diſtances agree ſo nearly with our nautical authorities, and the intervention of the cape marks ſo preciſely the nature of the coaſt, that it is impoſſible there ſhould be any error of conſequence in fixing the poſition of Sidodone. Kataia ſtill retains ſome reſemblance to its ancient name in the various forms of Kaiſh, Keiſh, Gueſs, Queche [146], Qâs [147], Ken, or the Zeits of the Dutch maps. It is an iſland evidently more marked by navigators than others in its neighbourhood; and yet, as it lies twelve [148] miles from the coaſt, there is no apparent

[144] The claſſical reader will be more eaſily convinced of this fluctuation by reference to the writing of Tyrus. The Phœnician word is Tſor, with the two intials TS, correſpondent to Niebuhr's DSJ; and Tſor becomes by the T, Τύρος, Tyrus; by the S, Sor or Sar, the root of Sour Souria; Συρία, Syria; and found in Virgil,—Sarrano indormiat oſtro; where the ſcholia write, a *Saro* murice. By the ſame analogy, Tſerd-Tarſia, Serd-Sertes, Certes, Gherd, Sjerd.

[145] I conceive that Tarſia is preſerved in the Râ-el-Dsjerd of Niebuhr.

[146] With the French pronunciation.

[147] Niebuhr.

[148] Eight by M'Cluer's chart; nine by Thevenot.

reaſon

reaſon for its attraction of Nearchus, unleſs it were the hope of procuring there a ſupply of goats for the fleet.

Kataia, ſays Arrian, is a low [149] deſert iſland; and Thevenot [150] mentions it as about five leagues in circuit, very low and flat. M'Cluer adds, it is a very beautiful iſland, better planted with trees than any in the gulph, and about the ſize of Polior, but not ſo high. This is farther confirmed alſo by Lieutenant Cant, who calls it a low fruitful iſland [151]. Nearchus found it uninhabited; but frequented by viſitors from the continent, who annually brought goats here, and, conſecrating them to Venus and Mercury, left them to run wild. What deities of the Perſian or Arabian mythology are alluded to by theſe titles is not eaſy to determine, but the practice indicates the navigation of the gulph in that age; and if the gods were to protect the breed for a time, we muſt ſuppoſe it was ultimately intended for the uſe of man, upon the ſame principle that Juan Fernandez was ſtocked by the Spaniards in the South Seas. Nearchus has not informed us whether he violated the aſylum of theſe animals, but this appears the natural inducement for his leaving the coaſt to make this iſland, as he had obtained no ſupply either at Tumbo or Sidodone; and we do not read that the ſacrilege, if committed, was revenged by Mercury or Venus in ſo ſevere a manner, as the companions of Ulyſſes were puniſhed for feaſting on the oxen of Apollo.

Keiſh was at one period poſſeſſed of a flouriſhing commerce, and great influence in the gulph; for d'Anville informs us from Texeira, that even Gerun itſelf was part of its territory, and granted to the

[149] αλιτηρία.

[150] Part ii. p. 173.

[151] Al-Edriſi, p. 56. mentions Kis alſo. D'Anville. But without any attributes except its diſtance from Kiſmis.

Hormoſians

Hormoſians of the continent when they were oppreſſed by the invaders [152] on the main, and tranſported to Gerun their treaſures and their name, as to a place of refuge. The information of Niebuhr reſpecting this practice of the natives on both ſides the gulph, flying from oppreſſion to the iſlands, throws great light upon this ſubject; ſuch emigrations ſeem to have exiſted in all ages, and ſome appear to have taken root and flouriſhed, like thoſe in Keiſh, Ormuz, and Karack, till they were involved in the revolutions of the continent; while others ſerved only for a temporary retreat, abandoned again as ſoon as the ſtorm had blown over. Keiſh retains ſtill ſome ſuperiority in the account of our Engliſh navigators who have viſited it, by whom it is deſcribed as flouriſhing, well planted, and capable of ſupplying refreſhments to the veſſels which frequent this ſea. Its latitude is fixed by Mr. Dalrymple at 26° 34′ 52″.

A line drawn from Kataia to the main, ſeparates the provinces of Karmania and Perſis; and that this line is not merely imaginary, may be concluded from a remarkable hill on the main, called Charrack in our Engliſh charts, which is probably the termination of a range running inland, and forming a natural boundary. Somewhere at the foot of Charrack, and nearly oppoſite to Keiſh, ſtood the town of Siraff, noticed by Al-Edriſi as a ſeat of commerce in his time, and connected with Keiſh, as Gomeroon was afterwards with Ormuz. In the ninth century Siraff [153] was a port of importance; for it ſeems in that early

[152] Moſt probably upon the inroad of Timour's ſons, about the year fourteen hundred.

[153] See the voyage of two Arabians from Renandot, in Harris's Collection, vol. i. p. 523. The ſhips of Siraff went to Maſcat to take their departure, *i. e.* they found that coaſt the beſt point for taking the advantage of the monſoons. Alfragani mentions its decay in his time, Gol. p. 116; but perhaps Golius himſelf, and not Alfragani.

age

age to have been in the poſſeſſion of the Arabians, and the centre of an Oriental commerce which extended to China; both Kataia and Siraff fell into decay, as Ormuz roſe into conſequence long before the Portugueſe were maſters of that iſland; and though Siraff is now in ruins according to d'Anville, Charrack (the Tsjærâk of Niebuhr) exiſts very nearly in the ſame ſite [154], and is ſtill the reſidence of an Arab Sheik. The meaſures upon this coaſt proving as erroneous from deficiency, as thoſe on the coaſt of the Ichthyophagi from exceſs, it becomes neceſſary to ſpecify the default, for which no better excuſe can be given than the ſituation of Nearchus in both inſtances. If diſtreſs magnified the length of his former meaſures, eaſe and ſecurity appear to have diminiſhed theſe on the coaſt of Karmania. The detail ſtands thus:

Britiſh Miles deduced from Arrian's Stadia.		*From* BADIS	*Stadia.*	*N. Miles by Chart.*
50		to an open ſhore, Armozon,	800	43
$43\frac{3}{4}$	50	Neoptana, -	700	69
$6\frac{1}{4}$		Anamis, -	100	
$12\frac{1}{2}$		Oaracta, - -	300	34
$18\frac{3}{4}$		Oaracta, ſecond ſtation,	200	32
25		Tumbo, -	400	36
$37\frac{1}{2}$		Sidodone, 600 (allowed)		36
$37\frac{1}{2}$		Tarſia and Kataia,	600	46
$231\frac{1}{4}$			3100	296
		Allowed at Sidodone,	600	
			3700	

[154] There is juſt ground of ſuſpicion that Charrack, Tsjarâk, Sharak, Sarak, is actually Saraf, or Siraf. See the account of this town and its commerce in Renaudot and Harris; and the circumſtance of houſes built with the bones of whales. Renaud. p. 95. Eng. edit.

Theſe three thouſand ſeven hundred ſtadia agree with the total both of Strabo and Arrian; and the diſtance allowed at Sidodone not only makes the ſum accord, but correſponds with the meaſures of the former days. Unfortunately, however, three thouſand ſeven hundred ſtadia produce only two hundred and thirty-one miles Britiſh, and the opening of the compaſſes gives two hundred and ninety-ſix nautic miles, or about three hundred and thirty-nine Britiſh; we have, therefore, a balance againſt Arrian of one hundred and eight miles which he has not accounted for, and no compenſation is at hand to which we can have recourſe, for the diſtance omitted at Badis cannot amount to ten miles[155]. The great error lies between Badis and the Anamis, or round the coaſt of Oaracta, for ſome of the latter meaſures are ſufficiently correct; and as Arrian has allowed only fifty miles for the length of that iſland, which is in reality little ſhort of ſeventy, this, with the other miſtakes dependent on it, though it will not compenſate, may contribute to reconcile the difference. It is not, however, my intention to juſtify the ſtadium of d'Anville in particular inſtances; but having ſhewn its general correſpondence with the courſe of the whole voyage, I ſtate facts upon the preſent occaſion as they appear. Some advantages[156] might have been taken in meaſuring with the compaſſes, of which, though I availed myſelf in detailing particular ſtations, I have avoided in collecting the total. One circumſtance may be mentioned in Arrian's favour, which is, that all his numbers are hundreds without regard to inferior denominations, and this proves

[155] It is, I imagine, from Cape Jaſk only to the centre of the bay.

[156] In meaſuring the total, I neceſſarily took from point to point. In meaſuring from iſland to iſland, I have ſometimes taken from the neareſt ſide of each. This makes ſome diſtances correct in detail, but diſcordant in the total.

that

that he ſpeaks generally, thinking little of modern accuracy, which divides to a minute or a ſecond.

The coaſt of Karmania or Kerman, next the ſea, is generally a low and narrow ſtripe below the mountains [157], arid, and hot in the extreme; this tract is called Kermeſir, and compared by Niebuhr to the Tehama of Arabia, a ſpecific term among that people alſo, to diſtinguiſh the margin bordering on the ſea, from the mountainous region inland. Kermeſir, however, is not confined to Kerman, but prevails as applied to a territory of the ſame character, tending much farther to the weſtward, through the maritime part of Perſis. This whole coaſt, from Gomeroon to Cape Bardiſtan, is now, he informs us, under the power of a tribe of Arabs called Beni Houle, divided into little principalities under Sheiks, independent of each other, and all weak by perpetual diſſenſion. There is little agriculture among them, as they depend for ſupport on fiſhing and hunting, and export little except wood, or ſuch commodities as the country yields without cultivation. The Sheiks [158] he ſpecifies are thoſe of Seer [159], Mogo, Tsjærack, Nachelo, Nabend, Aſloe, Tæhrie, Schilu, and Konkoun, which are all places on the coaſt, with a territory not worth defining; and the inhabitants of which live, like our ancient Ichthyophagi, principally upon fiſh, either freſh or preſerved. Juſt ſuch a town Arrian repreſents Sidodone [160] to have been in the age of Alexander; and though the decline of the Perſian power had not been of ſufficient continuance to allow of

[157] Sannas and C. Nabon are the termination of ranges at the ſea, coming from the chain which runs parallel with the coaſt.

[158] Schiech. Niebuhr.

[159] See alſo Otter, who relates the tranſactions of this tribe with Nadir Shah. Vol. ii. c. 25.

[160] Πολικνίῳ σμικρῷ, καὶ πάντων ἀπόρῳ, ὅτι μὴ ὕδατος καὶ ἰχθύων, p. 353.

Arabian intruders, as is the caſe in the preſent deſolation of that empire, the manners of the people are very ſimilar to thoſe of the modern inhabitants, and their connexion with Arabs, I am perſuaded, might be traced, by analyſing [161] the names preſerved in our claſſical hiſtorians. That part of the province called Moghoſtan, towards the mouth of the gulph, with the iſland of Kiſmis, and thoſe in its neighbourhood, derived infinite advantage from the ſettlement of the Portugueſe at Ormuz, and foreſaw the ruin of their own happineſs in the preparations of Abbas for the ſiege; they were conſequently diſaffected, and incurred the ſuſpicion of their ſovereign as ſtrongly as the Portugueſe provoked his hatred. The conſequences have proved the juſtice of their reaſoning; agriculture is loſt when commerce produces no demand, and manufactures periſh where there is no protection. Before the capture of Ormuz, the Engliſh loaded ſilk, both raw and manufactured; they find nothing there at preſent but ſalt [162], ſulphur, Kerman wool, and copper; native commodities, but not wrought. The nature of this country from Gomeroon to Lar, the capital of Lariſtan, which is the diſtrict next to Moghoſtan, cannot be deſcribed better than it is by Pietro della Vallé [163]; he inſiſts much on the total want of rain, a circumſtance ſimilar to that on the coaſt of Mekran [164], and mentions, that at Lar itſelf, where there is neither ſtream nor ſpring, it ſometimes does not rain for ſeveral years following. I ſuſpect that Lariſtan terminates weſt upon the coaſt, near Kataia, as did the ancient limit

[161] Bruce has great ſucceſs in applying this analyſis to ſome of Ptolemy's names in the Red Sea, Orneon, Portus Albus, &c. vol. i.

[162] Journal of Houghton Indiaman, 1755.

[163] Vol. v. ſub fine.

[164] The correſpondence of the modern accounts with the ancient is worthy of remark. Strabo ſays, it never rains in Mekran below the mountains. Lieutenant Porter writes, that when he was at Churbar there had been no rain for ſix years.

of

of Karmania; or, perhaps, at Sanás: but I find no authority to determine this point with preciſion. Both theſe diſtricts are viſibly comprehended in Kerman, and are, as I conjecture, confined to the tract below the mountains.

Both Ptolemy and Marcian fix the limits of Karmania at the river Bagrada; but as they diſagree with Arrian in carrying the eaſtern boundary to Moſarna, and this river on the weſtern border is not very clearly determined by modern geography, it will, if not eſſential, be ſome gratification to curioſity at leaſt, to examine Ptolemy's liſt of rivers, and try if any light can be derived from the order he has given them. There is no river on the main oppoſite to Keiſh, or Kataia, in any of our charts, and this proves that the limit aſſigned by Arrian and Ptolemy is not the ſame; in looking, therefore, to the weſt, we find a conſpicuous point at Cape Nabon [165], and a river which falls into the gulph cloſe to it; here I fix the Bagrada of Ptolemy; and, by reckoning from Anamis to this ſtream, I can diſcover five rivers out of his ſeven, if not more.

Marcian.	*Ptolemy.*	*Arrian.*	*Modern.*
1. Saganus,	Andanis,	Anamis,	Mina.
2. Addanius [166],	Saganus,	}	{ Bender-Ser?
3. Akhiadama, Agedana Iſland,	Akhidana,	}	{ Nagana Guda?
4. Korius,	Karius,		Rud Shiur.
5. Kathrapus,	Atapus, Araps,		Saraſs?
6. Dora,	Dara,		Dara-bin.
7. Bagrada,	Bagrada,		Nabon.

1. The Saganus of Marcian is evidently tranſpoſed, which juſtifies the liberty I have before taken with this author, in rectifying his

[165] The Nabon river is a very large ſtream, and conſequently fitter for a boundary. Mr. Jones.
[166] Tuanes, MS.

tranſpoſitions,

tranſpoſitions, and reducing them to the order of Arrian; for in this inſtance, though he is the profeſſed copyiſt of Ptolemy, he deſerts his original; I aſſume, therefore, his Addanius for the Andanis of Ptolemy, the Anamis of Arrian, and the Mina river, or Ibrahemi, of our modern charts.

2, 3. Saganus [167] ſucceeds therefore according to Ptolemy, and either at this river, or Achindana the next in order, I place the ſtream which comes in very near Gomeroon at Bender-Ser. I cannot find two [168] rivers, or even torrents, at this place in any chart; but in Reſſende's [169] manuſcript delineation of the coaſt I ſee two ſtreams, one oppoſite to Ormuz and a ſecond more to the ſouth; theſe may be the two of Ptolemy, but more likely the Bender-Ser and Ibrahemi which Reſſende mentions, in another part of his work, by the name of Obremi. D'Anville has a river in this poſition which he names Nagana-Guda, bearing ſome diſtant reſemblance to Saganus, and Akhiadama, or Akhidana; or both perhaps, have a relation to Marcian's Agedana, which he calls an iſland. It is not impoſſible, ſince Marcian mentions nothing correſpondent to Ormuz, that his A-Gedana is the O-Gerana of Arrian, the Gerun ſo often corrupted; and if ſo, his own Akhiadana and Ptolemy's Akhidana are the correſpondent river on the main, oppoſite to Ormuz, where the ſtream of d'Anville lies. Upon this ſuppoſition, we account for one ſtream at leaſt out of the two.

4. In Karius [170], or Korius, we may trace ſome reſemblance to the Rud-chiur [171] of our modern maps; a ſtream of ſome importance,

[167] Saganos. Pliny, lib. vi. 25.

[168] Pietro della Vallé paſſed one ſmall ſtream in his road from Mina to Rudſhiur. Vol. v. p. 419.

[169] Brit. Muſ.

[170] Corius P. Mela.

[171] See Pietro della Vallé, vol. v. p. 373.

as it has a longer courſe than the others, forms the boundary between Moghoſtan and Lariſtan, and falls into the Kiſhmis Channel, not far from Kunk or Kongo, a town, from its healthineſs, much fitter to have become a mart than Gomeroon, if it had not been ſituated in the Straits. Chiour, Kiour, or Schiur [172], ſignifies ſalt, and Rud-Chiur the Salt River; if, therefore, we obſerve that the Greeks had no ſound like Sch [173], it will be readily allowed that they could not approach nearer the Oriental name than Koor-ius, or Kor-ius, and this conſideration; united with the order and locality of this river, ought to eſtabliſh its identity. If farther confirmation is wanted, we find in Pliny [174], that he mentions it by the very name of Salſos [175].

5. Kathraps, Kathrapus, or Kathrapis, correſponds with the Araps, or Arapis, of Ptolemy; but as no ſtream of modern geography connects with it, it ſerves only to juſtify the liberty we may take with names; or, if it has a modern repreſentative, it is poſſibly a torrent from Mount Sannaſs, or Saráſs; and Saraps is not a greater variation from Araps than the Kathraps of Marcian.

6. Dora [176], or Dara, preſents a ſimilarity of ſound with the Dara-bin, or Derrabin, of our preſent charts, laid down almoſt op-

[172] Schiour, Chiour, and Kiour, enters into the compoſition of many names of rivers; for many are ſalt in Perſia, Karmania, and the Mekran.

Otter has a Roud-guird in his route from Hamadan to Iſpahan. Vol. i. p. 192. And Guird, he ſays, ſignifies *environs*. It is poſſibly Guird for Kiour; but, if otherwiſe, Guird, environs, is from Gerd, Gherd, or Certa; and ſignifies a town, not a river. The place, however, where he was, was called Guerdge, *the town*; and, if ſo, Roud Guird is only the *river of the town*.

[173] Pietro della Vallé, when he writes Chiur, naturally ſuggeſts the Italian pronunciation, anſwering to Kiur in Engliſh.

[174] Lib. vi. cap. 25. He perverts the order. See Salmaſ. Plin. Ex. 1181.

[175] D'Anville carries this title of Salſos up to Strabo; but if we obſerve that it is joined with others evidently in Karmania and at the eaſtern part of the Gulph, why ſhould it be tranſported into Perſis, and ſo far to the weſtward? See Mem. p. 159.

[176] Daras of Pliny, ibid.

poſite

poſite to the iſlands Buſheab [177] and Schitwar. Here I muſt confeſs I looked for the ſite of Ptolemy's Bagrada, as lying neareſt to the Kataia of Arrian; but the reſemblance of ſound induces me to fix Dara at Dara-bin, and if ſo, Bagrada muſt be carried to the next ſtream weſtward, which is at Cape Nabon. The Darabin is in the neighbourhood of Arrian's Mount Okhus, and afforded a ſafe anchorage to the fleet, apparently in the mouth of the river. That mountain extends along the coaſt from this river to Cape Nabon, and is called Dahhr-Aſbân by Niebuhr [178]; Dahhr is as evidently, therefore, the Dara of Ptolemy as Dahhr-Aſbân is the Darabin of the moderns.

7. Bagrada [179] I place at Cape Nabon, or Nabend, for the reaſons already ſpecified; and if I find no modern name to correſpond with it, it muſt be conſidered that navigators do not give us the native names of rivers in the gulph, but denominate them from the places where they diſembogue. The Baſra river is known to every ordinary mariner; the Schat-el-Arab is a name that we muſt ſearch for only in the map of the geographer, or the chart of the enlightened navigator. It is not improbable, therefore, that if the queſtion were put to the natives, their name of the Nabon river might ſtill retain the traces of Bagrada.

This diſquiſition on the rivers of Karmania ought not to be conſidered as foreign to this work, for one great object of it, is, to recon-

[177] See M'Cluer's chart, Harvey's, d'Apres, &c.

[178] And Capper, who follows Niebuhr's orthography.

[179] D'Anville carries the Bagrada to the Agradat of Strabo in Cœle-Perſis; but κοίλη implies the country between the mountains, and not on the ſea coaſt. By the name of Da a, which precedes, and which I conſider as demonſtrably fixed, from its relation to Dahhr-Aſbân, I am fully perſuaded that Nabon is the Bagrada. See d'Anville's Mem. p. 159.

cile

cile ancient geography with modern; and if a monument is by theſe means raiſed to the correctneſs of Ptolemy on the coaſt, it is ſome compenſation for the charge of error imputed to him in regard to the iſlands, a juſt diſtribution of theſe was, till within the laſt century, a deſideratum in geography; and if they are now diſpoſed with preciſion, the world is indebted to the attention of Engliſh navigators, and to no one more than M'Cluer [180].

I ſhall cloſe this account of Karmania with noticing, that Arrian informs us the Karmanians had the ſame manners, habits, and cuſtoms as their neighbours in Perſis, and reſembled them likewiſe both in arming and forming the troops they contributed to the ſervice of the empire. The modern Perſians conſider them as a people, acute, ſubtle, and prone to rebellion; and their province was the laſt retreat within the empire for the ancient Parſees, or worſhippers of fire. This unhappy caſt, under the name of Guebres, Abbas endeavoured to exterminate, when the reſidue was diſperſed over India, and a numerous tribe of them are now ſettled at Bombay, where they build thoſe celebrated ſhips which, in conſtruction and durability, prove the ſervice they might have rendered their own country. Never, ſince the world began, did any government gain by perſecution.

II. PERSIS.

In conducting the fleet from its entrance into the gulph, it has been no difficult taſk to aſcertain every ſtation at which it anchored; the aſſiſtance I have derived from d'Anville, and the correctneſs of our Engliſh charts, I have acknowledged at every ſtep, and it is a

[180] See *infra*, Inderabia.

pleaſure to add, that the more correct they are, the more clear is the correſpondence of the journal with the actual ſtate of the coaſt at the preſent day. We are now to enter upon the province of Perſis, and though I cannot promiſe equal perſpicuity in regard to ſome ſtations of little importance, the general deſcription of the coaſt is perfect, and the principal harbours as fully aſcertained as they are in modern geography. One inſtance of this will be more particularly apparent in the ſtation which immediately ſucceeds.

ILA PORT. KAIKANDROS ISLAND. January 6. Ninety-ſeventh day.

The fleet weighing from Kataia arrived, after a courſe of twenty-five miles, at Ila, an anchorage on the coaſt covered by the iſland Kaikandros. The name which M'Cluer gives to a place very nearly correſpondent is Gillam [181], from which if we ſubtract the initial letter, which is the repreſentative of an aſpirate, we find Illam ſufficiently allied to Ila; and if the antiquity of Gillam could be aſcertained, the identity would be complete. In Kaik-ANDROS alſo the modern name of Andarvia may be diſcovered, which is one out of a multiplicity of titles beſtowed upon an iſland in this ſituation, ſtyled Inderabia by M'Cluer, Inderabi [182] by Niebuhr, Angarvia, Indernea, and Indernore, by the other charts: and perhaps when we reflect that the Greeks have no SH, we may be induced to ſuſpect that the Kaik-Andros of Nearchus is equivalent to [183] Keiſh-

[181] It is the ſame as Lieutenant Cant's Gella, which approaches nearer to Illa, or Ila; but Cant's Gella is ill placed. Illa becomes Hilla and Gilla, like Han, Khan, Cawn. Hendoo Gentoo.

[182] Anderipe, Inderuca, Hinderabi, &c. It is poſſibly alſo the Lameth of Al-Edriſi, as he mentions Siraf and Tſafac, *i. e.* Tsjarack, in its neighbourhood, p. 120.

[183] Kili Kiavus is likewiſe mentioned by Otter, vol. ii. p. 213. but fabulous.

After making this conjecture, I found in Golius, that Caicavus is *divus Cavûs*, who obtained water and milk in this iſland or Keiſh. Gol. ad Alfrag. 117.

Andarvia;

Andarvia [184]; an additional title this iſland might have obtained from its proximity to Keiſh, or its dependence on it. From the eaſtern point of Keiſh to Andarvia, ſays d'Anville, it is nearly ſix leagues; and he aſſumes [185] the eaſtern point as a ſpot where the fleet might have anchored, in order to acquire a diſtance approaching to the twenty-five miles of Arrian: but d'Anville would have been better pleaſed to find that M'Cluer, in his ſecond chart, has extended the diſtance from twelve to twenty geographical miles between Keiſh and Inderabia, and twenty geopraphical miles ſupplying upwards of twenty-three [186] miles Britiſh, make an agreement with Arrian ſufficiently correct. M'Cluer writes to Mr. Dalrymple [187]: "I have "altered the ſituation of Inderabia, as I found it too near Kenn [188]." And in this teſtimony we have a ſatisfaction in obſerving, that the more correct the modern chart is, the better it correſponds with Arrian. M'Cluer has rendered a ſecond ſervice in laying down this iſle nearer to the main than it appears in moſt of the other charts, for ſo Arrian deſcribes it, as covering the road and making the anchorage ſecure. Inderabia, according to Lieutenant Cant [189], is a low iſland, not inhabited, but affording freſh water; "the channel "between it and the main is about a mile broad, with water from

[184] I have been the more confirmed in this opinion by obſerving in Golius, p. 117. which I have been enabled to interpret by the aſſiſtance of my friend Dr. Ruſſell, that Keis is the proper name of a man; and that the Arabs, fabulouſly perhaps, like the Greeks, derive the name of the iſland Keis from Keis ebn Ameerat, Keis the ſon of Ameerat. In this manner, Keis might be eaſily made an acceſſary to Andarvia alſo. Andarvia, written ſo many ways, approaches the Greek more nearly in Portugueſe, Anderoya; for ſo it appears in Reſſende.

[185] This licence is juſtifiable wherever a coincidence can be obtained by it; and I uſe it freely when occaſion requires, becauſe the point of anchorage is never aſcertained by the journal in the ſeveral iſlands.

[186] This diſtance is taken from the two extreme points neareſt; ſo that by taking an anchorage in Kenn, you may have twenty-five miles exact.

[187] P. 13. Pref. to Dalrymple's Collection.

[188] Keiſh, written Kenn in ſeveral charts, but I believe always improperly.

[189] P. 44.

" ſeven to fifteen fathoms, neareſt the iſland:" its mean latitude is 26° 49′ 37″.

OKHUS MOUNTAIN. AN ISLAND. A PORT. January 7. Ninety-eighth day.

From Kaikandros to a ſecond iſland, no diſtance is given, and only two miles and a half to an anchorage on the coaſt; from this anchorage again, to a harbour under a mountain called Okhus, no meaſure is ſpecified. The iſland, Mr. d'Anville complains, was laid down incorrectly; but he read in the old Portugueſe charts, Ilha de L'Ara, or Lara, and ſo I find it in Reſſende and Thevenot[190]. We have now, however, two iſlands accurately placed in M'Cluer's ſecond chart, which agrees better with Arrian than his firſt, and by the poſition of theſe we muſt determine the courſe. Taking, therefore, a meaſure proportionate to the correctneſs of the journal for ſome days paſt, I allow, from the centre of Inderabia to Mount Okhus, about three hundred or three hundred and fifty ſtadia, that is, from eighteen to twenty-one miles, and I include the whole courſe in one day. The two iſlands are called Schitwar[191] and Buſheab, and the latter is written Schech-Schaiib by Niebuhr, equivalent to Abu-Schaiib or Bu-Sheab; for Schech is *old*, and Abu, *father*, and both are titles of reſpect, as we uſe Seigneur, or Sir, in Europe. Schitwar, the ſmalleſt of the two, and the one directly in the courſe of the fleet, is the iſland which Arrian means, and which he ſays was inhabited, and poſſeſſed of a fiſhery for pearl; a circumſtance not unworthy of remark, as ſeveral travellers inform us, that pearls were formerly taken at Karak[192] and other places on the eaſtern ſide of the gulph, as well as on the celebrated bank of Bahr-ein. If I

[190] Thevenot ſaw the two iſlands at a diſtance, and therefore brought them into one; and ſo M'Cluer ſays the trees on Schitwar ſeem to be on Buſheab. It is ſeventy leagues from Karak, according to Thevenot, Part ii. p. 173. Thevenot mentions likewiſe that it is very near the coaſt, and a paſſage within. It is poſſibly the Araka of Ptolemy.

[191] Capper writes this name Shudwan.

[192] Thevenot, ibid.

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am right, therefore, in aſſuming Schitwar for Arrian's nameleſs iſland, the remainder of this day's courſe is clear; for the forty ſtadia he allots for croſſing from hence to the main, is nearly equal to the breadth of the channel beween Schitwar and the eaſtern point of the river Darabin, where I ſuppoſe the firſt anchorage to be; and the ſecond, only by croſſing the river to the weſtern point, or ſome convenient bay adjoining. This is the apparent reaſon why no diſtance is mentioned here, while the meaſure between Inderabia and Schitwar is an omiſſion. M'Cluer marks an anchorage in a bay, and a town called Schitwar [193], juſt to the weſtward of the mouth; here [194] I conclude the ſtation of the fleet was, and here we can find a mountain to correſpond with Okhus. That the town on the main ſhould bear the ſame title as the iſland is a circumſtance ſimilar to that which takes place at Ormuz, and is founded probably on the practice recorded by Niebuhr, already noticed, of the inhabitants on the coaſt flying to the iſlands, in their neighbourhood, or the iſland receiving its name from a town on the main. This is the ſecond inſtance, and two more will occur, with a third, that poſſibly may be accounted for upon the ſame principle.

The mountain Okhus [195] is nothing more than the termination of an high range of coaſt extending from Cape Nabon to the river Darabin, called Dahhr-Aſbân by Niebuhr, as already noticed, and diſtinctly ſpecified in M'Cluer's firſt chart; I have not been able to trace the connexion of this range inland with the great chain, which runs parallel to the coaſt; but there can be little doubt of the fact,

[193] Chetwar.

[194] Harvey's chart places Schitwar point on the eaſtward of the river, but marks a ſmall town where M'Cluer's Schitwar or Chetwar is. Harvey 1778.

[195] See M'Cluer's firſt chart. Two of Claude Ruſſel. Kæmpfer. Van Keulen. D'Apres 1776. Harvey 1778.

as the two rivers Darabin and Nabon at the two extremities ought to be the produce of this mountain, throwing off its waters on both ſides, and forming two ſtreams, which appear to have ſome pre-eminence above the torrents to the weſtward. In Dahhr-Aſbân [196] we have the Dar-abin of our charts, and the Dara of Ptolemy, which he places indeed in latitude 28° 40′; but as he has given a more northerly direction to the gulph than it really has, this is readily accounted for.

At the mouth of this river, and on the weſtward ſide then I fix the ſtation under Mount Okhus [197]; and I muſt obſerve that M'Cluer's ſecond, or corrected chart, coincides with the ſeveral circumſtances in Arrian more nearly than any of the others, or even than that which is inſerted in the preſent work.

Of the two iſlands, Schitwar lies nearer to the coaſt on the ſouth-eaſt of Buſheab, and the channel between Schitwar and the main was not paſſed either by Cant or M'Cluer; but they both intimate, from the information of their pilots, that the paſſage is clear, as well as the other between this iſle and Buſheab, which is leſs than a mile broad. Buſheab is the largeſt iſland in the gulph except Kiſhmis [198]; it is low as well as Schitwar, but has ſome high land at the back; it is well planted and inhabited, four leagues long, and four or five miles broad, and lies in latitude 27° 1′ 30″. Schitwar is ſaid to be ſtill more fruitful, which is a ſufficient reaſon why it was found inhabited by Nearchus, and poſſibly why a pearl-fiſhery was eſtabliſhed in its neighbourhood. The narrowneſs of the channel reduced to leſs

[196] See Niebuhr, vol. ii. p. 192. French edition.

[197] Ochus is the name of a river which falls into the Oxus, and I doubt not contains ſome relation to a river here. See Salmaſ. Plin. Ex. p. 216.

[198] And I ſuppoſe Bahrein.

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than three miles by Arrian, makes me adhere to M'Cluer rather than any other authority; and as he leſſens [199] the uſual diſtance ſpecified between Buſheab and the main, there is great reaſon to believe that he is near the truth in laying down Schitwar, though he was not through the channel himſelf.

Niebuhr places Nachelo, the reſidence of a Sheik, in the river Darabin; and if I had found any reſemblance in this name [200] to Okhus, I ſhould have looked to this place for a ſtation; but in the poſition taken there can be no error of conſequence to the journal, except that an addition to the diſtance Arrian gives between the Darabin and Cape Nabon would be convenient, as his account is at preſent ſomewhat in exceſs.

APOSTANI, or APOSTANA. January 8. Ninety-ninth day. A day allow'd.

From Okhus to Apoſtani the courſe was twenty-eight miles, which carries the anchorage rather more than half way from the Darabin to Nabon; and here we are to find a road, as ſeveral veſſels were ſeen at anchor, and there was ſaid to be a village at the diſtance of near four miles up the country. A more hopeleſs cauſe for reſearch has not yet occurred, for the high land upon the coaſt promiſes little for the ſite of a village, and the nature of the ſhore preſents no appearance of ſhelter. D'Anville finds a bay called Eſtornadi at the foot of the mountain, from what authority does not appear, and from want of good charts has no river either at Darabin or Nabon. He places Aſſelo [201] and Apoſtanos [202] in the ſame place, which is evidently incorrect, as Aſſelo [203] or Aſlo, is fixed by all the beſt charts to the north-weſtward of Nabon, while Apoſtani is evidently

[199] Memoir, p. 20.

[200] Okhus, N'-Okhe-lo?

[201] Has he not confounded Aſſelo with the Aſſetow of our charts?

[202] So d'Anville writes, and Anamin, Ilan, &c. from the Latin authorities, he follows.

[203] See Niebuhr. M'Cluer writes Aſtola, like the iſland on the coaſt of Guadel.

twenty-

twenty-five miles to the eaſt. But before we can determine upon a ſite, we muſt diſpoſe of a town called Chewra, Chetow, or Sherouw, which takes a variety of poſitions from the eaſtward of the Darabin, almoſt to Cape Nabon.

The reſemblance of theſe names, however written, would induce a ſuppoſition that they all relate to the ſame place; but Sherouw, or Sherouve, in the Dutch charts placed eaſtward of the Darabin, is the Shirav, or Siraf, of the Eaſtern geographers, oppoſite to Keiſh, and formerly a place of great commerce; and Chetow is the place written Chetwar by M'Cluer evidently related to the iſland Schitwar, and placed by him with an anchorage juſt to the weſtward of the Darabin. The ſame ſite is given to Aſſetow, in Lieutenant Harvey's[204] chart 1778, and Aſ-Setow is Setowar and Chetwar in another form. This ſame chart, which marks a village here, marks a ſecond without a name half way between the Darabin and Cape Nabon; and this ſecond is the place called Shevoo by Captain Simmons[205]. "About half way from hence [the Darabin] to Cape "Nabon is Shevoo[206], where good water may be got." Theſe are his own words, and here, unleſs Shevoo[207] is miſapplied, we get a ſituation from Harvey, and a name from Simmons. The poſition of this village, be its name what it may, anſwers to the Apoſtani of Arrian, and the facility of obtaining good water here, is a ſufficient reaſon for finding it frequented by the country veſſels in the age of Nearchus, or at the preſent hour. The general diſtance given from

[204] In a chart comparing Harvey with Cant, and C. Ruſſell by Dalrymple.

[205] Ives, p. 205. mentions Shewee previous to Nabon, as a ſmall fiſhing-town. His account is not diſtinct.

[206] See Dalrymple's Preface, p. 13, note.

[207] The reaſon for ſuppoſing Shevoo may be miſapplied is its reſemblance to Sherouw and Chetow, at Sherouw below Darabin. Van Keulen writes,—*hier is water van kuylen*, in pits or tanks.

Mount

Mount Okhus to Nabon by the journal is fifty-three miles divided into two courses, one of four hundred and fifty[208], the other of four hundred stadia, and agrees with M'Cluer's corrected chart within three miles; we cannot, therefore, commit any error that affects the series, in placing Apostani by the measure given, or reducing it to the Shevoo of Captain Simmons. The name itself has a Greek appearance, but is undoubtedly not Greek; nothing, therefore, forbids us to suppose it may be Abu-stan[209], like Abu-schaib, Abu-shâhhr, and other similar compounds on the coast; or to assume a corruption justified by its locality, and derive it from Asbân. My own opinion inclines to the latter; and if this should meet with the approbation of Oriental readers, we are obliged to Mr. Niebuhr for first producing the name of this range, which solves three problems at once; the Dara of Ptolemy, the Darabin of modern geography, and the Apostani of Arrian, all from Dahhr-Asbân[210].

A Bay at Cape Nabon. January 9. Hundredth day.

From Apostani the fleet weighed at night, and proceeded twenty-five miles to a bay, on the borders of which were seen scattered villages, adorned with palm-trees, and others yielding fruits[211] similar to those of Greece. Here Nearchus anchored, under the projection of a cape which rose to a considerable height. The cape is manifestly Nabon, and the bay is formed by the mouth of the

[208] Twenty-eight and twenty-five miles.

[209] *The Sheiks' country.* Abu and Sheck are equivalent in Abu-Schaib, Scheeh-Schaib.

[210] In addition to what has been already said upon Bah and Dah, it appears from Ludolphus, that they have an opposition in the Abyssinian language; as Bahr, the *sea*; Bahr-Nagash, the governor or king of the *sea* coast; and Dahr is in the same dialect Daber, or Dabra, a mountain; both, by that author, supposed to be connected with the Arabic. In my own opinion, the primary sense of Dahr is *head*; and thence, Dara or Darius, a king. Dar, a *head* officer; Dahr, the *summit* of a mountain. See Ludolphus Abyssinia, book i. c. 4. book iii. c. 4. And Bruce *passim*.

[211] ἀκρόδρυα. Salmasius says, only nuts, almonds, and such as have a shell without and fruit within, p. 108, et seq. But see Theophrastus: ἀμπέλους τάλλα ἀκρόδρυα, ibid.

river which bears the ſame title. The point of this cape[212] is very remarkable, being flat table land, which extends a conſiderable way, and then breaks off to a ſharp ſloping point, which makes the table land appear lower than it is; the river which comes in here runs parallel with the coaſt, and is at preſent the reſidence of an Arab Sheik, who is maſter of a few ſmall veſſels, which he employs in piracy. Thevenot[213] mentions it as a place ſtill abounding in palm-trees, with a village on a low bank of the river; and the high land commencing near the cape extends far inland. The term uſed by Arrian expreſſes the anchorage of the fleet under cover of the table land at the foot of the mountain; which, with the circumſtances of a bay, villages, and fruit-trees[214], makes the correſpondence exact. It has been obſerved already, that here is the Bagrada of Ptolemy, which he places in latitude 28° 4′, and the head of it in 30° 6′, but by its courſe at the cape it ought to incline in the contrary direction, though I can find no information either in travellers or voyagers to give it any fixed poſition. That the coaſt is little frequented appears by the diſcordance of the charts, and the routes inland tend to Bendereek, Lar, or Gomeroon, either on the eaſt or weſt, with little attraction even for merchants either to Nachelo[215] or Nabon. The latitude of Nabon is fixed by Dalrymple for 27° 27′ 26″.

[212] Lieutenant M'Cluer, p. 21. Lieutenant Cant, p. 22. In Mr. Dalrymple's Collection.

[213] D'Anville; but I have not found the paſſage in Thevenot.

[214] Mr. Jones mentions the Nabon as a large river; and ſuch it ought to be from the extent of the mountains. Ives notices the ſame circumſtance, p. 205. Here Providence ſeems to have allotted a ſpot of ground amidſt inhoſpitable rocks and deſerts, capable of affording the kind production of vegetables, &c. &c. Ives, p. 205. In the river, a ſhip of nine hundred tons may ride. The Portugueſe had once a ſettlement here, ibid.

[215] Pietro della Vallé mentions ſome Armenians who intended to land at Nachelo in order to go to Schiras. Vol. viii. p. 20. This route falls into the ancient road to Siraff. Nub. Geo. p. 125.

Upon

Upon departing from Nabon, the fleet proceeded upwards of thirty-ſeven miles to Gogana, a diſtance which anſwers within a mile to the poſition of the modern Konkûn or Congoon, remarked by M'Cluer for a high ground over it called Barn-hill from its appearance, and as being the northernmoſt town in the bay[216], which curves to Verdiſtan. Between Nabon and Konkûn lie Aſſelo and Tahrie; whence, he ſays, this bay runs deep up to Konkûn. The whole of this day's courſe is ſheltered from the north-weſt blaſts by the projection of Cape Verdiſtan, and the foul ground in its neighbourhood. This ground is noticed by the journal, as lying round the anchorage in a circle, and diſcovering itſelf with a dangerous appearance at low water. Gogana is deſcribed as a place inhabited upon the ſide of a winter torrent called Areon, in the mouth of which the fleet anchored with great difficulty, both on account of the narrowneſs of the entrance, and the dangerous ſhoals which almoſt preclude an approach to it. This torrent does not appear in any chart or map, except d'Anville's, in which it is doubtleſs placed from the authority of the journal, and probably exiſts in reality, though, from the little knowledge we have of this tract[217], or the inſignificance of the ſtream, it has not drawn the attention of our Engliſh navigators. It is ſome ſatisfaction, however, to find a name reſembling Konkûn ſo nearly as Gogana; and as Niebuhr makes it the reſidence of an Arab Sheik, it is perhaps of more eſtimation with the natives than with thoſe who frequent the gulph, and whoſe only object is commerce.

GOGANA. January 10. Hundred and firſt day. Day allowed.

[216] Aſtola, Taurie, M'Cluer, p. 22. See Niebuhr alſo, who ſays it is the moſt dangerous part of the gulph.

[217] "A veſſel muſt be cautious of ſtanding up too far in this bay." M'Cluer, p. 22.

SITAKUS RIVER. January 11. Hundred and second day. Day allowed.

The courſe of the following day was fifty miles to the Sitakus, which it would be well if the journal had increaſed conſiderably, for the coaſt itſelf meaſures that diſtance, without allowing for the circle that muſt be taken round the ſhoal off Cape Verdiſtan. It is not probable that an Engliſh veſſel ſhould ever determine whether there is a paſſage within the breakers; but within, undoubtedly, Nearchus muſt have ſailed, to make the ſtadia conſiſtent: and though M'Cluer makes an anchorage almoſt in the centre of them, a paſſage cloſe to ſhore muſt be dubious, unleſs it could be proved that it is ſtill practicable for native veſſels. There is an iſland called Mongella [218], lying to the eaſtward of Verdiſtan, only three miles from the main, within which if there be a paſſage, it muſt have been ſeen by the fleet: but that it is paſſed in ſilence, or the cape itſelf, is no proof that Nearchus ſtood out to ſea; for omiſſions of this ſort are frequent. It is only meant to argue, that if there is a paſſage within [219] the ſhoal, the meaſure of Arrian is correct; if there is no paſſage, it is the firſt on this coaſt which has been deficient. Mongella is the Palmeira of the Portugueſe, the Om-en-châle [220] of Niebuhr, though he marks no iſland, and his Raſ-el-châن, or Cape Châن, is the Kenn of our Engliſh charts, the Kaneh-Sitan of d'Anville, remarkable for the hummocks over it, which form a landmark to veſſels upon their approach to Verdiſtan: here is the anchorage of the journal at the Sitakus, a ſtream which d'Anville calls Sita-Reghian; and I ſhall conclude my obſervations on the courſe with noticing, that as the tide riſes [221] ten feet here, it is poſſible that Nearchus found his way through the

[218] Om-en-châle of Niebuhr.

[219] "From Mongella northward to the bay, "in by Kenn, I never have examined in any "veſſel." M'Cluer, p. 25.

[220] Rather an iſland. Om-en-châle, anſwering to an Om-en-châle on the continent. Nieb. vol. ii. p. 168. French edit.

[221] M'Cluer.

breakers,

breakers[222], ſhoals, and oozy channels, he ſo graphically deſcribes: ſuch, he ſays, was the nature of the coaſt, and ſuch it appears in the charts at the diſtance of two thouſand years: but if the approach to this ſtation was difficult, the anchorage was indifferent; the fleet, however, wanted repair, the veſſels were conſequently drawn on ſhore, and the time employed in refitting and careening was no leſs than one-and-twenty days; during which interval, they received a large ſupply of corn, ſent down by the command of Alexander. From this circumſtance we may conclude, that the detachment under Hephæſtion was in the neighbourhood; and, (as I collect from Alfragani[223], Golius, d'Anville, and Otter[224],) at Giouar, or Firouz-abad, an inland city, the capital of the diſtrict Ardeſhir, celebrated for its gardens, vineyards, and roſes, as pre-eminent in Perſia as thoſe of Pæſtum in Italy. I fix upon this place, becauſe I learn from Otter, that the river of Giouar receives a ſtream called Sita Rhegian[225], which may be interpreted the ſandy Sita, and, with a final aſpirate, becomes Sitahh, or the Sitak of Nearchus. The Eaſtern writers mention, that Alexander took this city by inundating it with the waters of the river; this could not happen; for Alexander himſelf was on the other ſide of the mountains; but his army under Hephæſtion might have taken it by this method; and the permanence of the tradition affords ſome ſort of proof, that Hephæſtion was at this city, as I have ſtated. The roads which branch out from this centre evidently mark it as a capital; and when

[222] Βράχια, ſhoals; ῥηχίαι, broken water; Τιάγια, ſhoals with ooze or mud.

[223] Gol. ad Alfragan, p. 114. Founded by Ardexir, ſon of Babec, ſon of Saſun. An Elburz, or fire-tower of the Parſees, was in this city. Gour ſignifies a ſepulchre.

[224] Otter, vol. i. p. 191. I found this account by accident in Otter, ſtrangely placed in a route from Hamadan to Iſpahan.

[225] Raiguian. Otter.

we

we reflect that Siraff and Keiſh were formerly the Gomeroon and Ormus of the gulph, we ſee the neceſſity of the communications extending from this centre to the coaſt at Siraff, and inland to Shiras; to Lar on the eaſt, and to Reghian on the north-weſt; in this latter line it is evident that Hephæſtion, with his diviſion of the army, moved. We have before attended him acroſs the mountains from Giroft to Lar, and we have here a route from Lar through Giouar [226] and Kazeron to Ragian on the river Tab or Endian, which is the boundary between Perſis and Suſiana. In Suſiana Hephæſtion rejoined the main army under Alexander, who ſeems to have moved by the route of Velaz-Gherd, the weſtern Phoreg Paſagardæ, and Perſepolis, till he fell into the march by which Timur came from Suſiana to Shiraz, and trod this ground in a contrary direction, till he reached Suſa or Shuſter, the ancient as well as the modern capital of the province. Theſe marches of the two diviſions will be farther conſidered hereafter upon the arrival of the fleet at Suſa; at preſent they are only noticed, in order to connect the motions of the fleet and army, upon occaſion of the ſupply received at Sitakus. The time which the fleet continued here is longer than any interval hitherto employed upon the refitting of the veſſels; and we ought for this reaſon to ſuppoſe that they waited for the approach of the army, or the collection of the ſupply. The reaſon of this muſt evidently be, that the diſtance from Giroft to Giouar is upwards of three hundred miles, a march which, in this climate, could hardly require leſs than four or five and twenty days, even if Hephæſtion moved on the ſame day with Nearchus;

[226] In the route of Al-Edriſi, from Shiras to Siraff, we diſcover the road from Lar to Giouar, though Lar is on the left, and not mentioned. See *infra*.

eleven

eleven [227] days' navigation, therefore, and twenty-one days in port, give a period almoſt neceſſary for the ſervice required; and this allowance combines the motion of the fleet and army in a manner agreeably to reaſon, and not contradictory to the hiſtory of the tranſactions.

Cape Verdiſtan [228], with its ſhoal tending out to Kenn, is one of the moſt prominent features in the gulph: Engliſh veſſels, however, which are generally bound to Buſheer, or Baſra, having no other buſineſs but to avoid [229] it, we have no right to expect any immediate account of the coaſt itſelf at this point: but the anchorage at Sitakus, d'Anville has elucidated [230] with particular attention; Kaneh Sitan, he informs us, ſignifies the habitation of Satan; and the river Sita-Reghian [231] has evidently an alluſion to the ſame prince of darkneſs; an extraordinary inſtance of his early influence in this country, and the duration of his empire. Whether Nearchus found the territory of Satan an agreeable reſidence for one-and-twenty days, I pretend not to determine; but, from the good-will I bear him, I regret to find him in a place with a name of ſuch ill omen. Reghian is not quite perſpicuous, as there is another Reghian on the Tab or Endian, and a Bender-Regh, which is the Rhogonis of Arrian. It is probable that the etymology of the word, which ſignifies ſand, will explain all three; but I have looked in vain for more Reghians than one in the Nubian Geo-

[227] Twelve days inclusive.

[228] Bardeſtan, Bardeſtrand, Van Keulen, Babeſtan, D'Apres, 1745. Burdiſtan, Capper; who calls it a mountain.

[229] See M'Cluer, p. 24, 25. All his directions are how to avoid it with ſafety.

[230] Lieutenant Cant gives a bay here, and Harvey, a river. Claud Rueſſel's chart calls the river Jareu.

[231] The Sitiagogus of Pliny, p. 136. lib. vi. 22. deſerves no notice; he ſays it is navigable up to Paſagarda.

grapher. The Giouar of that author on this river[232] throws great light on the march of Hephæſtion, and the ſupply received by the fleet, becauſe the meaſures taken from Shiras, Kazeron, Siraff, and Reghian on the Tab, all correſpond with ſome degree of correctneſs, and the uſe Mr. d'Anville has made of theſe in his firſt map of Aſia bears the higheſt teſtimony to his judgment and penetration. It is upon this occaſion that he introduces his remarks upon the rivers of Perſis, demonſtrating that none of them beyond the mountains ever find their way to the ſea; and ſhewing that thoſe which have occurred in Arrian bear the characteriſtic mark of torrents, as he deſcribes them, never riſing beyond the great range, and fed only by the rains which fall there too periodically to ſupport a perennial ſtream. When we ſee the face of nature painted ſo juſtly, who ſhall aſſert that the journal before us is the production of a Greek ſophiſt in his cloſet? One circumſtance only ſurpriſes me in d'Anville, which is, that he ſhould miſtake the Bagrada of Ptolemy, for as he has himſelf placed the Taoké of that author, with great apparent propriety, at Gennaba, and his Cherſoneſus at Buſheer, or Bender-Riſcher, his Briſoana ought to be the river at Kierazin, to which it bears a relation, however corrupted; his Auſinza[233] naturally becomes Auſizan, or Verdi-ſtan, and Bagrada of courſe is the next river[234] at Cape Nabon. In tracing Ptolemy's catalogue thus from Cape Jaſques to the termination of Perſis, I perſuade myſelf that I not only add perſpicuity to this immediate work, but perform a ſervice uſeful to geography, and acceptable to every lover of the ſcience.

[232] Al Edriſi does not mention the river.

[233] Written Staſirda by Marcian, p. 19.

[234] There is no other between Verdiſtan and Nabon but the torrent Areon, too minute for all our charts and maps to notice.

The

An interval of one-and-twenty days paſſed at Sitakus, brings our account to the firſt of February, and on this day I fix the departure of the fleet for Hieratis. The courſe is nearly forty-ſeven miles, which terminates at the Gilla or Halilah of M'Cluer, with a ſufficient degree of correctneſs, and where d'Anville finds the Kierazin[235] of the Turkiſh Geographer. The fleet anchored in the mouth of a canal called Heratemis, cut from a larger river at no great diſtance, which is doubtleſs the ſtream that comes from Kazeron[236]; and Kazeron as undoubtedly is the root of all the corruptions which appear under the form of Kierazin, Hieratis, and the Zezarine of the Engliſh charts. The ſtream[237] itſelf, in its ſource at leaſt, which is near the foot of the mountains, is poſſibly that called Abghine[238] by Thevenot, and was paſſed by him in the neighbourhood of Karzerum[239] (as he writes it), in his route from Schiras to Bender-Regh. The variations occurring in this name flow two different ways from the ſame ſource, for Kaſeroon[240] firſt becomes Kazerene, Kezarene, Zezarene, Brizoene[241]; and ſecondly, Kerazene, Kierazin, Kierad-ſin, Hierat-ſin, Hierat-is, and perhaps Heraten-is, or Heratemis: but I do not maintain that both are the

HIERATIS. February 1. Hundred and twenty-third day.

[235] This is the only mark I find in his chart. Gilla is a town. Halilah, or Halilat, a hill, which ſerves as a direction for entering Buſheer harbour. It takes its name from the town marked Halila in Niebuhr.

[236] See Kouſher of Thevenot, Niebuhr, &c.

[237] Kazeron has an additional title, the country of Sapor; and is the head of that diviſion of Perſis called Sabur, or Sapor, by d'Anville. Gol. ad Alfragan, p. 115. not. It is not, however, the capital, for that he calls Sabùra.

[238] Nothing certain can be fixed on the interior courſe of theſe rivers.

[239] Thevenot, part ii. p. 149. It flows within a mile and a half of the town, and was apparently paſſed by a bridge about ſix miles lower. The town is large, but ill built.

[240] Written Kazarun by Al-Edriſi, p. 125.

[241] This is, I conjecture, the relation which Ptolemy's and Marcian's Briſoana has with Kezarene; but it is mere conjecture.

ſame, for Kazeroon [242] is upwards of fifty miles inland, and the Kierazin of the Turkiſh Geographer is on the coaſt; but I ſuppoſe both to be connected by means of the diſtrict or the river. D'Anville has obſerved, that Kierazin on the coaſt appears not in the modern maps, but that the name exiſts in our Engliſh charts under the form of Zezarine, applied to an iſlet nearly fifty miles out at ſea. This is true; but at the time he wrote, neither this iſle, nor another called Kenn, were laid down with any degree of correctneſs. We have ſince obtained their poſition, from an obſervation of Captain Moore; Kenn [243] in latitude 27° 54′, and Zezarine in 28° 8′. Kenn is a round bank of ſand ſcarcely half a mile in length, and Zezarine [244] ſomething larger, with a rock in the middle; both are ſixteen or ſeventeen leagues from the coaſt. Kenn is likewiſe called the Cock, or Perſia, and Zezarine, Arabia, by the native pilots. And here is a circumſtance worthy of remark, which, though it eſcaped the notice of d'Anville, ſpeaks highly for the penetration manifeſted in his reference; for Zezarine, the iſle, is as certainly connected with a Zezarine on the main, as Kenn is with his Kaneh-Sitan, the Kenn of our Engliſh charts. There is another ſolitary iſle called May, upwards of ſixty leagues from the coaſt, in latitude 25° 50′, which I mention, in order to ſhew the perpetual connexion of theſe little ſpots with the main; for Al-Edriſi fixes a Mai in the road from Shiras to Siraff, to which this iſlet is nearly oppoſite, and

[242] After making this conjecture, I was gratified in finding a demonſtration of it in Otter, vol. i. p. 310. where he writes Kiaziran, Kaziroun, as the ſtrict Oriental orthography of Kazerun. This, at the ſame time it proves the perpetual tranſpoſition of ſyllables (ſo often noticed), as of Kiaziran for d'Anville's Kierazin, unites it with Kezareen and Zezareen, moſt perfectly. The connexion, therefore, of the town with the river and the ſhoal is eſtabliſhed.

[243] Dalrymple's Collection, p. 46.

[244] Keyn and Zazareen, M'Cluer.

to

to which it is probably related. I expected to find a Kierazin alſo in Al-Edriſi, but his routes are always the journals of the caravans, and we ſeldom have any delineation of the coaſt.

Arrian has no particulars of Hieratis; but that it was on an iſland formed by a channel from a river in the neighbourhood, and that an iſland of this ſort, reſembling the delta of a river, ſhould not appear in our Engliſh charts is not extraordinary, becauſe it would naturally be confounded with the coaſt; but Mr. d'Anville places an iſland here, which he writes Couſher, and which is the Coucher of Thevenot. He did not land here; but he ſays it is a pretty large iſland, and enables us to form a conjecture of its diſtance from Buſheer, by mentioning that he paſſed that port between two or three o'clock in morning, and was off Coucher at half an hour after ſeven. I trace an account which correſponds with this in Niebuhr, who upon his arrival at Kormudſch, in his route from Buſheer to Schiras, mentions an arm that runs up from Buſheer [245] into the interior of the country, then turns itſelf to the ſouth, and falls again into the gulph lower down towards the eaſt. At the place where this ſtream ought to fall in, his map preſents us with Khôre-Eſſeri, and as Khôre ſignifies a channel, or diviſion, I have little doubt but this is the Heratemis of Arrian, and that Khor-eſſer [246] is the Koucher of Thevenot. It is true that Niebuhr is not accurate in his account of the arm which comes [247] from Buſheer, for there is no ſuch arm, as Mr. Jones aſſures me, who reſided at Buſheer many years; and it is extraordinary that Niebuhr ſhould inſert this arm in his own chart [248],

[245] Niebuhr, vol. ii. p. 81.

[246] Khôre-Eſſeri is literally the channel of Eſſer, and Eſſer doubtleſs has a relative ſenſe.

[247] I uſe his own term, but it is more properly a large arm which he makes fall into Buſheer Bay. See his map.

[248] Vol. ii. p. 97. Amſt. edit.

and yet give us Captain Simmons's chart[249], in which no river larger than a brook is to be found. As Niebuhr never ſaw this Khôre-Eſſeri therefore all that we can collect, is, that he gained intelligence from inquiry among the natives, that the circumſtance of a river incloſing a delta between two of its mouths exiſted, and that the eaſtern channel was called Khôre-Eſſeri. This, for want of further information, he was obliged to lay down with uncertainty; but that ſome ſtream, attended with theſe circumſtances, does fall into the gulph, within the diſtance of from ten to twenty miles eaſtward of Buſheer, I make little doubt, and ſuch a ſtream will anſwer to the Hieratis and Heratemis of Arrian. Mr. Jones is acquainted with a ſhallow arm of the ſea running inland near Halila; and though he doubts the circumſtances here attributed to it, it is not impoſſible that this arm ſhould ſend off a channel to the eaſtward.

MESAMBRIA Town. PADARGUS. PADARGUS River. February 2. Hundred and twenty-fourth day.

From Hieratis the fleet proceeded the following morning to Meſambria, and anchored at the mouth of the torrent called Padargus. The whole place, ſays Arrian, is a peninſula, which points out Buſheer or Bender Riſcher moſt correctly; and here there is no diſtance given, a circumſtance[250] recurring conſtantly whenever the fleet paſſes a cape, and anchors immediately under the ſhelter it affords. I ſhould conclude, therefore, if d'Anville does not ſtand in my way, that Hieratis was at no great diſtance from the back of this cape to the eaſtward; that they had anchored there only becauſe they could not double the cape the preceding evening, and had ſailed into port as ſoon as they had day-light. Theſe circumſtances do not greatly diſagree with the ſituation Thevenot gives to Koucher, and

[249] Vol. ii. p. 75.

[250] See anchorages after paſſing Mount Eirus, Jaſk, and Tarſia.

contribute to relieve the obſcurity attendant upon this part of the coaſt.

Buſheer varies as much in its orthography as any place[251] within the gulph, for it is written Ruſheer and Riſcher, now generally applied to the old town, or a fort, which, with the addition of Bender, or port, gives it all the different forms it has in the charts; but laſt of all comes Niebuhr, who writes it Abu-Shâhhr[252], with Riſchâhhr at a greater diſtance than it ought to be; and thus, probably from his better knowledge of the language, we have the proper name at laſt.

Whence the Meſambria of Arrian is deduced does not immediately appear, for though the word is expreſſive of *noon* in Greek, we may be aſſured its origin is not from that language. Arrian deſcribes it as a Cherſoneſe, and Ptolemy and Marcian uſe that term only without the addition of a name; this induces me to conjecture that both merely tranſlated the native term Meſambria. Now it will appear hereafter that Meſen ſignifies an iſland, and is applied as ſuch to a Meſene on the Schat-el-Arab, to another in Meſopotamia, and to a Muçan in the Sinus Meſanius of Ptolemy. This word, therefore, with the addition of Bar, a *continent*[253], which we obtain from Montfaucon, produces Meſen-bar-ia, correſponding literally with the Greek term Cherſo-neſe[254]. I give this only as a conjecture, though the circumſtances of the place perſuade me that it is ſomething more; and, in ſupport of this opinion, I refer to Captain Simmons's plan[255] of Buſheer, by whoſe aſſiſtance I can

[251] Reixel by the Portugueſe, who had a fort here. Abbeſeer, Van Keulen.

[252] Or Abu-Schæhhr.

[253] See *ſupra*, p. 248.

[254] From χέρσος, *a continent*; νῆσος, an *iſland*, a peninſula.

[255] Publiſhed by Mr. Dalrymple, and copied in Niebuhr. Voyage, tom. ii.

carry

carry Nearchus to his moorings in the port, as readily as if I were upon the ſpot; for in that plan there is a place marked as the watering village, within a mile of an inſignificant ſtream correſponding with the Padargus of Arrian, and in the interval between theſe two points I ſuppoſe the fleet to anchor.

Buſheer has been latterly much more frequented by the Engliſh than Gomeroon, or any port in the gulph except Baſra, for they had a factory here as late as the year one thouſand ſeven hundred and ſixty-five, and I know not that it is yet abandoned. The town occupies the triangle at the cape, with a fort uſually called the Old Town, and ſometimes Riſcher, at the back of the cape, near five miles diſtance. The cape is joined to the main by a neck, the narroweſt part of which is at the torrent Padargus, forming the Cherſoneſe mentioned by Ptolemy and Arrian; but Niebuhr[256] obſerves, that the country is ſometimes overflowed, ſo that the town is ſituated alternately on the continent and on an iſland[257]; but it is not a little remarkable, that out of three witneſſes who have been on the ſpot, two[258] ſhould aſſert that the town is walled, as it appears in Captain Simmons's drawing; and a third, M'Cluer, maintain, that there are not the leaſt marks of defence about the place. It ought not to be omitted that the gardens or plantations which decorate Captain Simmons's chart are noticed by Arrian[259] in a pointed manner, as if the goodneſs of the ſoil had produced the ſame cultivation ſo many ages ago, as cheers the country in the preſent declining ſtate of Perſia. This, however, is denied by

[256] Thevenot calls it an iſland, Part ii. p. 172.

[257] Dalrymple's Preface, p. xviii.

[258] Captain Simmons and Niebuhr.

[259] ἐν αὐτῷ κήποί τε πολλοὶ, καὶ ἀκρόδρυα παντοῖα ἵφυτο, p. 354.

M'Cluer,

M'Cluer, who calls the neck a ſandy deſert, and never cultivated, which is a ſecond inſtance of contradiction in two eye-witneſſes, and reſpecting the ſame place. Mr. Jones alſo confirms the teſtimony of M'Cluer, and contradicts the aſſertion of Niebuhr, where he mentions that the neck is overflowed. The country as far as Buſheer is ſtill called Kermeſir by Niebuhr, that is, the low land, though we ſee in the drawings here the high land of Halila, as we do at ſeveral other points along the coaſt, at Kenn, Nabon, &c. but which are not ſufficient to invalidate the title, or perhaps worthy to compare with the grand[260] ridge which runs inland in a line with the coaſt. This diſtrict, Niebuhr informs us, is inhabited by Arabs, not of the tribe of Beni-Houle, which prevails from Gomeroon to Konkun, but by two clans of long ſtanding, and a third which has intruded itſelf into the government, named Matariſch, the head of which was in his time Sheik Naſer, a chief who had degraded himſelf by marrying a Perſian, and profeſſing himſelf of the ſect of Ali. He poſſeſſed a large territory in Kermeſir and the iſland Bahrein, but was a feudatory of Kerim Khan, the maſter of Shiras. The harbour[261] is commodious, and veſſels ride cloſe to the houſes, which induced Nadir Shah[262] to have a fleet here in the latter end of his reign, when he had quarrelled with the Sheiks on this ſide of the gulph, and wanted to interfere with thoſe of Oman and Maſcat on the oppoſite coaſt.

The mean latitude of Buſheer is given by Mr. Dalrymple at 28° 38′ 20″, which perhaps ought to be read 28° 58′ 20″, for

[260] Every route and journal bears teſtimony to the courſe of this ridge, and the branches from it. Conſult Thevenot, Tavernier, Francklin, Cheref-eddin, and Al-Edriſi, Ras-al-Acbé, ſummitatem montis, p. 125.

[261] Niebuhr, Eng. edit. vol. ii. p. 145. M'Cluer does not ſpeak ſo well of it.

[262] See Otter, vol. ii. and J. Hanway's Nadir Shah; but he had no better ſucceſs againſt the Arabs than others who have attacked them.

M'Cluer

M'Cluer carries it above 29° as well as d'Anville, and d'Anville has ſhewn as much judgment in correcting this poſition with bad information to work upon, as in any part of his valuable memoir.

TAOKE Town. GRANIS River. February 3. Hundred and twenty-fifth day.

When the fleet left Meſambria it proceeded only twelve miles and a half to Taoké, for which I do not allow a day, nor do I think one due. Neither will the diſtance to Taoké agree, though the double diſtance of twice twelve miles and a half to Rhogonis, or Bender-Regh, approaches very nearly to correctneſs; for the bay of Buſheer is fourteen or fifteen miles acroſs to the northern point called Rowhla and Rohilla by M'Cluer; and the river Granis, for which he allots a place, is not five miles from Bender-Regh. If, however, the two diſtances agree, though neither of them ſingly is correct, we may account for it from the circumſtance of their employment in the former part of their courſe, which was the examination of a dead whale, that ſeems apparently to have floated up to Rohilla point, and to have grounded on the ſands in its neighbourhood. Some of the people approached near enough to meaſure this monſter, and reported it to be fifty cubits long, with a hide [263] a cubit in thickneſs, beſet with ſhell-fiſh, barnacles [264], and ſea-weeds, and attended by dolphins larger than are ever ſeen in the Mediterranean. As this is the ſecond appearance of the whale in theſe ſeas, I have not thought myſelf authoriſed to omit the circumſtance; but as this animal was ſeen dead, and in a ſtate of decay, he might be deemed rather an inhabitant of the ocean driven up the gulph by the wind or currents. The condition in which he was found I leave to the diſcuſſion of the natural hiſtorians, or thoſe acquainted with the appearance of the animal in his native regions.

[263] δέρμα φολιδωτὸν. *Scaly*, in common acceptation, but I have not dared to admit it.

[264] λοπάδας. Patellæ genus. Limpets perhaps.

The

The mouth of the river at which the fleet firſt anchored is noticed in our Engliſh charts, and fixed by d'Anville for the Boſchavir, down the borders of which Thevenot travelled in his route from Shiraz to Bender-Regh; and Taoké anſwers to the Tauag of the Nubian Geographer, who places it not upon the coaſt, but, as Arrian[265] does, a few miles up the ſtream, thirty-ſix miles from Kazeron, and the ſame diſtance from Gennaba, on the river[266] of that name. Ptolemy has a Taoké, which is farther to the north; and Strabo mentions a palace of the kings of Perſia on the ſea-coaſt of Perſis, by the name of Oké[267], which is either a corruption or an integral part of Ta-oké. Thevenot[268] deſcribes the river as large, broad, and deep, and adds, that it falls into the gulph near Bender-Regh; but that its mouth is to the ſouthward of that town, and correſpondent to the Granis of Arrian, appears from the circumſtance of Thevenot's croſſing it to the right for the laſt time, in his way to that town, after having travelled on its bank at intervals for ſome time, and croſſing it repeatedly in the higher part of its courſe: in winter, he ſays, it is not fordable[269].

This river is marked with great preciſion in M'Cluer's ſmall chart of the head of the gulph, with a place called Nuchlat[270] at its entrance, and here, allowing for the error of half the courſe, there

[265] Two hundred ſtadia, almoſt thirteen miles.

[266] Called Ab-Shirin by d'Anville. The diſtance correſponds not at all.

[267] τὰ κατὰ τὴν Ὄκην. Lib. xv. p. 728. D'Anville.

[268] Part ii. p. 148. Eng. edit.

[269] Colonel Capper's journal mentions a ruin ſtill viſible from the ſea, inland on the mountains of Bang, which the natives ſay was built by the Greeks, and formerly impregnable. Greeks or Perſians are to them alike, and it is poſſible here may be the remains of Taoké ſeen from Bang, which is Ptolemy's Taoké, and yet approachable by the river, agreeable to Arrian's account. Capper, 232.

[270] We do not find the title of Bender Boſchavir, which d'Anville gives to this road in any of our Engliſh charts.

can be no miſtake in fixing the Granis of Arrian. Whether the Granis is the ſame ſtream as the Boſchavir of d'Anville and Thevenot I cannot poſitively determine, but that it is the river that comes from Grâ, and takes its name from that place, I have the teſtimony of Niebuhr [271]. "On the ſecond of March," he ſays, "we paſſed a "river which joins ſeveral others, then takes its courſe towards "Grâ, and diſcharges itſelf into the Gulph of Perſia, between "Abu-Sehahr and Bender-Regh." This is the river M'Cluer marks by Nuchlat; it is the only one between Buſheer and Bender-Regh, and it can be no other than the Granis of Arrian. So far as concerns the mouth of this ſtream I have no heſitation, but a great difficulty ariſes from the poſition of Grâ and Kazeron inland. By their ſite, the river [272] at Kazeron ought to come to the weſtward of Buſheer, and the river at Grâ to the eaſtward, but I carry the Kazeron ſtream to Hieratis, and that of Grâ to Taoké or Nuchlat; and this I am perſuaded is their courſe; but I dare not aſſert it in oppoſition to d'Anville, Niebuhr, and other evidence. It muſt, therefore, remain a problem in geography till the interior of the country is better known, for I can find no route that croſſes theſe ſeveral ſtreams at right angles; and, till that ſhall be accompliſhed, their relative ſituation cannot be determined.

RHOGONIS. February 3. Hundred and twenty-fifth day.

From Taoké, I make the fleet proceed the ſame day to Rhogonis, the modern Bender-Regh [273], and the Bundereek of our charts; its name implies the Sandy Port or Harbour, for ſuch it is, and the ſoil

[271] Niebuhr, vol. ii. p. 91. Amſt. edit. This paſſage is totally inconſiſtent with his map, where he brings the river from Grâ into the bay of Buſheer.

[272] This is true only if Niebuhr's map is correct; for d'Anville places Kazeron, as I do, at the head of the ſtream Hieratis. Niebuhr's map is ſo incorrect on the coaſt, that there is reaſon to doubt its preciſion inland.

[273] Bender Rigk. Niebuhr.

about

about it is all ſand. Thevenot, who came down from Shiraz to embark here for Baſra, informs us, that the town is built along the ſea ſide, at a place where it runs into a narrow channel, long and winding, but is not deep; and if he had wiſhed to deſcribe a circumſtance in conformity with Arrian, he could not have ſucceeded better, for here the journal indicates a winter torrent and a ſafe road [274], which in our charts is protected by an iſland in the form of a ſhuttle. On this head, the journal is ſilent. It is remarkable that Thevenot ſhould add, that it is a day's ſail from Bender-Riſher, or Buſheer, as I have made it; and though I allow that four hundred ſtadia, or twenty-five miles, is a ſhort day's work, yet it ſhould ſeem that, as it is from port to port, the natives conſider it as ſuch in the preſent age, as well as in the time of Nearchus. In the term Regh [275], or ſandy, we diſcover the Rhog-onis of Arrian, and a river called Rhog-omanis by Ptolemy, which d'Anville ſuppoſes to be the Ab-Shirin of Cheref-eddin, a ſtream that enters the gulph about twenty miles to the north of Bender-Regh, marked Gunowah by M'Cluer, and from which d'Anville derives a branch, that is to correſpond with the torrent of Arrian at this ſtation. On what authority this is built I know not, and the teſtimony of Thevenot without it is complete.

Bender-Regh was apparently the port of communication between Shiraz and Baſra, but was always out of the way of ſhips bound up the gulph, which took their pilot at Buſheer, or Karack; beſides this, there has been another reaſon of late years for their not fre-

[274] The road is formed by an iſland, and covers a narrow winding channel as Thevenot deſcribes. The river falls in as near as poſſible to the ſouth-weſt angle of the town. Thus it is deſcribed in a manuſcript draft of Lieutenant Maſcal's in Mr. Dalrymple's poſſeſſion.

[275] It is the ſame term as occurs in Bomba-reek, Bom-ba-regh, Sable delié of Pietro della Vallé; and this name is uſually written Bendereek, like Bombareek.

quenting it, for it was ſubject to a petty tyrant Mir Mahenna[276], whoſe hands were imbrued in the blood of a father, a brother, of two ſiſters, and of his own children, and who wanted nothing but extent of dominion to make him as great a murderer as Zingis Khan or Nadir Shah. It was this Arab who took Karack from the Dutch in the year one thouſand ſeven hundred and ſixty-five, after they had been in poſſeſſion of it about eleven years[277]. The Dutch appear never to have found the advantage of holding this iſland equal to the expence of maintaining it; or elſe we may well ſuppoſe it would have been better fortified than to permit ſuch a chief as Mir Mahenna to wreſt it from them. There was, indeed, ſome trade here, and ſome confluence of the natives from both ſides of the gulph; for they are willing to ſettle wherever they can find protection; but the reduced condition of Perſia, and the perpetual fluctuation of authority at Baſra, muſt, as long as they ſhall continue, keep the commerce of the gulph in a precarious ſtate, and prevent the riſing of any eſtabliſhment, either here or on the other iſlands, to the dignity or rank of Ormuz. Karack[278] is the larger of two iſlands which lie between latitude 29° 10′ and 29° 22′, off the headland between Buſheer and Bender-Regh, abounding in fiſh and dates, but without corn[279]; and here it has long been the practice of the gulph to take a pilot for Baſra. The ſmaller of the two is named Corgo in our charts, and Khouéri[280] by Niebuhr; at the north end is the watering place, where forty Engliſh were cut off by Mir

[276] Niebuhr ſays, he did not kill his father, but ſuffered him to be killed in his preſence.

[277] See the detail of this in Niebuhr, French edition of Amſterdam, p. 149. vol. ii.

[278] Charedſch of Niebuhr; and Charedſch in Foſkat's Vocabulary, ſignifies *au dehors, the off iſland.*

[279] M'Cluer. But Thevenot ſays it produces corn.

[280] Khouéri means *diviſion or diſtrict*; the iſle, perhaps, *ſeparated* from Karak.

Mahenna

Mahenna in the year one thouſand ſeven hundred and ſixty-eight. They were however enemies, and do not ſo much inflame the account of his cruelties, as his domeſtic tragedies. Tyrant as he was, with all this blood upon his head, he was not yet thirty years old in the year one thouſand ſeven hundred and ſixty-five, when Niebuhr was at Karack; but this monſter was afterwards obliged to fly from Bender-Regh to Baſra, on account of his cruelties, where his head was cut off by the Mutaſillim, and ſent to Bagdat [281]. Mr. Dalrymple has publiſhed a plan of both theſe iſlands from a French manuſcript, taken in the year one thouſand ſeven hundred and eighty-ſeven.

From Rhogonis, the next day's courſe was twenty-five miles to Brizana, a winter torrent, where it was difficult to find anchorage, on account of the breakers, ſhoals, and ſurf upon the coaſt. Theſe, however, were ſurmounted upon the tide of flood, but upon the ebb the veſſels were all left dry. If, therefore, we ſhould be curious to inveſtigate the queſtion here, what might be the draft of a Greek penteconterus, or veſſel of fifty oars, there are ſome data for determining it, for the flood riſes in the upper part of the gulph nine or ten feet; and if this riſe carried them over the breakers, we can hardly allow the largeſt veſſel in the fleet to have drawn more than from ſix [282] to eight feet water.

BRIZANA River. February 4. Hundred and twenty-ſixth day.

At Brizana I anticipate the objections which will be made to my fixing the Briſoana of Ptolemy at Kierazin, which, from its ſimilarity of name to the Brizana of Arrian, demands a poſition here; and one part of the objection will be very ſtrong, for neither Pto-

[281] Niebuhr, vol. ii. Voyage. French edition of Amſterdam, p. 161. note; probably about 1770.

[282] They could not draw more, but might draw leſs, and that I believe is the truth.

lemy,

lemy, nor Marcian his copyiſt, take any notice of a Brizana here, but have only one name bearing a reſemblance to it, and that not in this place. Before I attempt an anſwer, I muſt premiſe that I built nothing on the ſimilarity of ſound, which I derived from Keſareen, and I will now ſtate the queſtion on both ſides as fairly as circumſtances permit.

If the Briſoana of Ptolemy is to be the Brizana of Arrian, Ptolemy has miſplaced it, and not Arrian; a kind of tranſpoſition which I have before ſuſpected on the coaſt of the Ichthyophagi; and the reaſon why a preference is to be given to Arrian is ſelf-evident, becauſe a journal kept, and a courſe deſcribed from day to day, is much leſs liable to error than the account of a geographer reſiding at Alexandria, and reducing the relations which he received from written journals, or the oral information of navigators: but I do not think this tranſpoſition took place; for if d'Anville be miſtaken in placing Ptolemy's Taoké at Cape Banc, though even that is hardly credible; neither he nor I can be miſtaken in his Cherſoneſe, for that is the very term uſed by Arrian, and there is but one Cherſoneſe on the coaſt, which is at Buſheer: and I now ſay that, on the authority of Ptolemy himſelf, his Briſoana ſucceeds Buſheer, or the Cherſoneſe, and not the Cherſoneſe, Briſoana. His order ſtands thus:

Taoké, -	Cape Banc.
Rhogomanis, -	Bender-Regh.
Cherſoneſus Prom.	Buſheer.
Ionaca, -	———.
Briſoana, -	which ought to be Kierazin.

The latitudes, it is true, do not anſwer, but they are remarkably corrupt in this ſeries, for the mouth of the Bragada, the laſt name

on

on his liſt, is in 21° 54′, and the ſource in 35° 15′. What ſtream can there be in the Kermeſir, the ſource of which is fourteen degrees from the mouth? I rely, therefore, on the order, and not on the latitude; and in this I am juſtified by Marcian, for he meaſures from Taoké to Rhogomania, from Rhogomania to the Cherſoneſe, from the Cherſoneſe to Briſoana, ſix hundred and fifty ſtadia. Another circumſtance confirms this; for the Brizana of Arrian lies between the Aroſis and Rhogonis, and Marcian, in the ſpace between Taoké and Rhogomania, mentions the iſland Sophath, the Sophtha of Ptolemy, which iſland is Karack; this therefore muſt prove, that the Rhogonis of Arrian and Rhogomanis of Ptolemy are the ſame; and if we are right as far as Rhogonis, we are hardly wrong in the remainder of the ſeries. Theſe are the reaſons which induce me ſtill to place Briſoana at Kierazin [283], or Hieratis; and if I err, it is from my deſire to make Ptolemy conſiſtent with himſelf.

In ſettling the extent of this day's courſe by the journal, I ſhould be happy to find a nearer correſpondence than I do; Arrian calls it twenty-five miles, but the diſtance to Bender Delem, where d'Anville places Brizana, is upwards of thirty-five miles, and the diſtance to the Gunowah of our Engliſh charts is not twenty [284], ſo that one is in exceſs, and the other too ſhort to determine this poſition with certainty. Two rivers evidently fall into the gulph, one to the ſouth and one to the north of Cape Banc, the Taoké of Ptolemy. That on the ſouth d'Anville is ſurpriſed to find written Guenara; What would he think of our Engliſh Gunowah? And yet this is a corruption more to the ſight than the ear; for Guenowa is Gennaba, with the w for the Perſian b or v, and the open ſound of the vowels

[283] D'Anville has not diſcuſſed this point, but he aſſigns Briſoana to Kierazin.

[284] Not fifteen in d'Anville's map.

produced

produced the inſertion of R in Guenara, in whatever chart it appeared. Gennaba makes a conſpicuous appearance in Al-Edriſi, Cheref-eddin, and Alfragani; I ſhould prefer it therefore, if other circumſtances agreed, to Bender Delem; and as there is no diſtance given for the next day's courſe, we may be the more at liberty to place Brizana either at the one or the other. There is a ſecond conſideration of more weight, which is, that our charts are leſs to be depended upon on this part of the coaſt than the lower; for as veſſels now always go from Karack to Baſra, and always did go either from this iſland, Buſheer, or Bender-Regh, they have rarely touched upon the tract now before us, and, unleſs the wind is foul, do not make it. This is noticed by M'Cluer [285], and he adds, in a letter [286] to Mr. Dalrymple, that he found it neceſſary to ſhorten the diſtance between Karack and Baſra Bar, ten miles. I mention this as a ground of uncertainty in reſpect to this coaſt: but M'Cluer aſſures us, that Bender Delem is ſtill a place of reſort for the country veſſels, which favours d'Anville's opinion; and though M'Cluer does not place it upon the river north of Cape Banc, ſtill that river muſt be the Brizana of Arrian, though we cannot reconcile the diſtance. The beſt proof of this is, the poſition of Taoké [287] by Ptolemy, for he ends the province of Suſiana with Oroatis, the Aroſis of Arrian; and he commences Perſis with this promontory, which, though not prominent, is the firſt characteriſtic feature on the coaſt: this is the Cape Banc of Niebuhr, the Bang of our Engliſh charts; and though Ptolemy omits both the rivers Delem and Guenowa, which fall in on different ſides of it, a circumſtance not uſual,

[285] Memoir, p. 31.
[286] Preface, p. 16.
[287] The route in Al-Edriſi is Kazerun, Rozaic, Taug, Gennaba, p. 125.

ſtill his Rhogomanis and Cherſoneſe following, leave no doubt upon the propriety of fixing his Taoké at this cape, as there is no other till we come to Buſheer; and as we have not in any account, ancient or modern, notice of any ſtation between Delem and the Aroſis, there can be little heſitation in aſſigning this for the Brizana of Arrian.

Mr. d'Anville ſuppoſes Bender Delem to be at the mouth of the river, which its name implies, but our Engliſh charts carry it ſeventeen miles to the northward of it: and that Bender Delem is an object in the navigation of the gulph, I conclude from Thevenot, who, ſailing in a country ſhip from Bender-Regh to Baſra, undoubtedly purſued the ſame courſe as that by which Mazenes carried Nearchus; but as Thevenot notices Bender Delem while he paſſes Gennaba [288], or Guenowah, in ſilence; the former is to be preferred for Arrian's Brizana, however the diſtance may fail. The river called Guenowah in our charts is ſuppoſed by d'Anville to be the Ab-Chirin [289] of Cheref-eddin [290]; and ſuch, by the march of Timour, it appears; but the names of all theſe rivers are loſt to Europeans, becauſe our navigators name them all from the town they are near, in the ſame manner as Gunowah receives its title from Gennaba. It is in this reſpect that the geography of Cheref-eddin is valuable; for whatſoever river is paſſed in the route of the army may be depended upon at the point where it is paſſed, however he may be miſtaken in the report of its courſe above or

[288] Giannaba of Al-Edriſi.

[289] Sciniz of Al-Edriſi, 125. A mari non multum diſſita.

In the word Ab-Chirin there is ſomething to call in queſtion all our reaſoning on this point; for if Brizana is a corruption of Ab-Chirin, by dropping the A, as in Buſheer, Buſheab, &c; and if Ab-Chirin be really the river of Gennaba, or Guenowah, then this anchorage muſt be ſouth of Cape Banc, and not north; that Brizana is a reſemblance of Ab-Chirin, the river Chirin, I think for this reaſon: Chirin would be written Dsjirin in Perſic, and the DSJ paſſes generally into Z; by tranſpoſition we ſhould then find Zirin or Rizin, and from the latter Ab-Rizin; from this again, Brizina or Brizana. I do not dare to inſiſt upon this; but if the courſe of the Ab-Chirin ſhould hereafter be fixed, I ſhould certainly aſſume Brizana as its repreſentative.

[290] Vol. ii. p. 185.

below; and this circumſtance makes his work preferable to that of Al-Edriſi, who gives the towns on the route, but uſually neglects the rivers. If rivers are the veins of the earth, they are the ſinews of geography. I leave this ſtation unwillingly without ſatisfactory elucidation; but, all circumſtances conſidered, I at preſent ſubſcribe to d'Anville's ſettlement of it at the river Delem.

Arosis River. February 5. Hundred and twenty-ſeventh day.

From Brizana, the next day's courſe is to the Aroſis, a river ſufficiently conſpicuous, as being the boundary between Suſiana and Perſis; a privilege it maintains in modern geography as well as ancient; and Arrian adds, that it was the largeſt of all the rivers which Nearchus had yet met with in the Gulph of Perſia. It is called the Endian in our modern charts, from a town at no great diſtance from its mouth; and Ab-Argoün by Cheref-eddin; out of the component parts of which, Ar-oſis preſerves but a ſingle ſyllable, and that perhaps not legitimately, for Ab-Argoün is [291], as I ſuſpect, Ab-Ragoun, the river of Ragoun or Ragian, a town of conſiderable importance on this ſtream, near five-and-thirty miles from the ſea. In its lower part it is called Tab [292] by the Oriental writers, who always ſpeak of it as a ſtream of conſequence, and Ab in this word is apparently the river, pre-eminently above others on the coaſt. Endian is a village, or rather a knot of villages, fifteen or ſixteen miles from the ſea, from whence this ſtream derives the name by which it is known to the Europeans. The courſe and nature of the Aroſis [293] will be conſidered hereafter, with the other rivers of Suſiana, when we come to treat of that province; at preſent our concern is with the coaſt, and as no diſtance is given from

[291] Araghian. D'Anville. On the Tab there is a bridge a bow-ſhot from the town. Al-Edriſi. Ragian terminat Fares et Chureſtan eſtque urbs pulchra, p. 123.

[292] The Tab receives ſeveral rivers out of Khouſiſtan. Otter, vol. ii. p. 49. Who adds, that the province is very hot, but abounds in dates, grain, fruits, ſugar, &c.

[293] Ex parte meridionali Chureſtan fluit amnis Tab, dividens ipſam Chureſtan a Fares, et omnes aquæ Chureſtan in unum confluentes exonerant ſeſe in mare prope urbem Mahruian, non procul ab arce Mohdi. Geog. Nub. p. 123.

Brizana to the Aroſis, and one much too ſhort from Rhogonis to Brizana, an obſcurity reſts upon this part of the courſe, which is not ſufficiently elucidated by our modern charts. It is however neceſſary, as we are arrived at the termination of the province, to conſider the total of Arrian's ſtadia, and examine how far they agree with, or differ from, the actual extent of the coaſt. The numbers, ſuch as we have them in the journal, ſtand thus:

From the Centre of KATAIA, *or* KEISH

Ancient Name.	Modern Name.	Stadia.	Miles Engliſh.	Stadia allowed.	Miles Eng. allowed
To Ila or Kaikandros,	Inderabia,	400	25		
To an iſland [294],	Schitwar,	—	—	320	20
To the main [295],	———	40	$2\frac{1}{2}$		
To Ochus [296],	Darabin,	—	—	40	$2\frac{1}{2}$
To Apoſtani,	Aſbân. Shevoo?	450	28		
To a bay,	Nabon River,	400	25		
To Gogana,	Konkûn,	600	$37\frac{1}{2}$		
To Sitakus,	Kenn,	800	50		
To Hieratis,	Kierazin,	750	$46\frac{3}{4}$		
To Meſambria [297],	Buſheer,	—	—	400	25
To Taoké,	Nuchlat,	200	$12\frac{1}{2}$		
To Rhogonis,	Bender-Regh,	200	$12\frac{1}{2}$		
To Brizana [298],	Delem,	400	25		
To the Aroſis [299],	Endian,	—	—	800	50
		4240	$264\frac{3}{4}$	1560	$97\frac{1}{2}$
	Stadia allowed,	1560			
	Total of ſtadia,	5800			
	Miles allowed,	—	$97\frac{1}{2}$		
	Total of miles,	—	$362\frac{1}{4}$		

[294] Diſtance by the chart.

[295] From the point of Schitwar (ἄκρη) to the eaſtern ſide of the Darabin.

[296] From the eaſtern ſide of the mouth of the Darabin to the weſtern.

[297] Allowed from the eaſtern ſide of Kouſher, but dubious.

[298] If Brizana is Delem, this day's courſe is too ſhort by ten miles, compenſating for half the difference on the coaſt of Perſis, between Arrian and the charts.

[299] The diſtance allowed is taken from the charts between the Endian and Delem, and is one reaſon for ſuppoſing Brizana to be at Delem; for if it is to be referred to Gunowah, it meaſures eleven hundred ſtadia,—a day's courſe never occurring in the gulph, or in any part of the voyage except on the coaſt of the Ichthyophagi, in caſes of extreme diſtreſs.

From this table we are firſt to obſerve, that 362¼ miles Engliſh amount to 5800 ſtadia within a quarter of a mile, and yet, with the allowance made from the meaſure given by the Engliſh charts, I am not enabled to bring the total up to the actual extent of the coaſt; for the mere opening of the compaſſes gives five degrees and an half, equal to 382 miles Engliſh, ſo that there is ſtill a deficiency of twenty miles, without allowing for the courſe of the fleet. The total of Arrian is 4400 ſtadia, diſagreeing, as uſual, with his particulars; neither can his omiſſions be compenſated by 160 ſtadia; for the omiſſions taken from the chart, and reduced into ſtadia, amount to 1560. Theſe I have meaſured carefully, but preciſion is unattainable; and though ſome advantages may be taken in meaſuring ſingle intervals, in order to obtain a nearer correſpondence, I ſhall not force it upon the total, but truſt to the indulgence of the reader; hoping that twenty miles upon the 382 will be deemed a minute error, in compariſon of thoſe we uſually meet with in ancient geography. Strabo[300] accords with Arrian, or at the utmoſt within 100 ſtadia; but Pliny makes the coaſt 550 miles, an exceſs which cauſes this ſingle province to tranſcend[301] the meaſure of the whole gulph. I ſhall do a pleaſure to thoſe who have not ſeen d'Anville's Memoir, in producing here a ſpecimen of that geographer's penetration. "Doubtleſs, (he ſays[302],) Pliny drew from "the ſame ſource as Arrian and Strabo, for he read 4400 ſtadia, "and then converting theſe into Roman miles of eight ſtadia, the "diviſor produced exactly 550 miles, as it ſtands in his text." If Pliny had calculated the omiſſions, and found the whole amounting

[300] Strabo, p. 727. There is an error in the reading, but it ſeems to indicate four thouſand four hundred or four thouſand three hundred ſtadia.

[301] He makes the whole gulph eleven hundred and twenty-five miles. According to d'Anville's method, he muſt have read nine thouſand ſtadia, equal to five hundred and ſixty-two miles, in reality.

[302] Lib. vi. c. 25.

to 5800 ſtadia, as I have proved they do, his produce muſt have been 725 miles; an enormity equal to his meaſure of the Indus.

In regard to the rivers of this province, I cannot pronounce any thing certain on their courſe inland. I truſt to every traveller for the ſtream he paſſes in his route, but there are great difficulties in giving them the courſe found in their works, and which they muſt uſually derive from the information of the natives. The nature of the country will naturally produce temporary torrents from every valley between the mountains; but how theſe are afterwards combined, and under what name they reach the ſea, muſt be dubious, till travelling ſhall be more ſafe and frequent than it is at preſent. Of the Darabin and Nabon rivers we know nothing but their mouths. The Sitakus ſeems well arranged by d'Anville, as the ſtream that comes from Giauar, and collects all the torrents in the diſtrict; but the Kierazin is ſubject to all the difficulties which have been already ſtated.

The Boſhavir of Thevenot is elucidated with great attention in his route, but it falls into the ſea juſt to the north of Buſheer, as d'Anville gives it. I ſtill ſuſpect it is joined[303] by the river from Grâ, and becomes the Granis of Arrian: it is by Thevenot's account no ordinary ſtream. The Ab-Chirin of d'Anville, which he brings in at the Guenowa of our charts, is not, as far as I can judge, correct; it ſeems to be the ſtream of Delem, the Brizana of Arrian. Of the Aroſis more hereafter. Almoſt all theſe ſtreams Arrian calls Winter[304] Torrents; and, ſo far as they all riſe from the range of mountains inland, ſuch they are: but the rains fall in this range, as far as can be collected from the variety of materials before me, in April, May, and the early part of June; there is little rain in

[303] See Niebuhr's map, vol. ii. Amſt. edit. Where, however, this junction is not verified. I ſometimes ſuſpect that the Boſchavir is only another name for Buſheer, the *Buſheer River*.

[304] χειμάῤῥους.

the

the Kermeſir, or hot country next the ſea, and ſome years none at all. Theſe circumſtances ſeem to give a common characteriſtic to all theſe rivers, and to qualify them with the name of Winter Torrents, though their riſe is in ſpring, and conſequently Nearchus, who was upon the coaſt in February before the riſe commences, ſpeaks agreeably to the nature of the country, when he mentions ſome of them as too low and ſhallow to float even a Greek veſſel in that ſeaſon.

Nearchus has preſerved likewiſe moſt admirably the general features of the province, which he divides[305] into three parts; that diviſion which lies along the ſide of the gulph, he ſays, is ſandy, parched, and ſterile[306], bearing little elſe but palm-trees, which correſponds exactly with the Kermeſir, and the accounts of all our modern travellers; but as you advance to the north or north-eaſt, and paſs the range of mountains, you find a country enjoying an excellent temperature of air and pleaſant ſeaſons, where the herbage is abundant, and the meadows well watered, where the vine flouriſhes, and every kind of fruit except the olive[307]. Here the kings and nobles have their parks[308] and gardens; the ſtreams are pure and limpid, iſſuing into lakes which are ſtored with aquatic fowls, of all the different ſpecies. The paſture is excellent for horſes and domeſtic cattle, while the woods ſupply an ample variety both for the ſupport of man and for the chace. Such is the picture[309] ſet before us, and ſuch ever was this country while it was under the

[305] The ſame diviſion is made by Strabo and Dionyſius Perieg.

[306] Strabo, p. 727.

[307] This minute circumſtance, noticed by Arrian, is mentioned alſo by Le Bruyn.

[308] Sheib Bewan, rivulet Bewan, near Noubendgian, is one of the four Eaſtern paradiſes. D'Anville, p. 176.

[309] Even in the preſent decline, the country is ſo beautiful, that Francklin, after paſſing the laſt aſcent, and obtaining a view of this part of the province, burſts out into a vein of poetry, the effect of his ſudden tranſition from the parched level of Kermeſir, and the rudeneſs of the mountains.

protection

protection of a regular government. The lakes alluded to are doubtleſs the Lake Baktegian and a ſmaller one near Schiraz; and the ſtreams which terminate in theſe, and never find their way to the ſea, are as evidently the pure and brilliant waters he deſcribes with the ſame luxuriant fancy a poet of Schiraz[310] might have painted them at the happieſt period of the empire. But how is this picture now reverſed! War and tyranny has ſpread deſolation all around: It is not the deſtruction of Perſepolis[311] we lament over in ſurveying the ruins of Chelminar, or Eſtakar, while we accuſe either the ebriety or inſolence of a conqueror; it is not the tomb of Cyrus at Paſagardæ plundered and overthrown by an avarice natural to ſoldiers in the hour of victory, or natives in deſpair; but it is the fate of a province we deplore, which once furniſhed the braveſt troops of Aſia, which abounded in every gift that agriculture and induſtry could produce, which roſe above the barbariſm of the Eaſt, and was celebrated for its poets, its philoſophers, its beauteous race of women, its men, as comely in their perſons, as polite[312] and elegant in their manners; its merchants, who trafficked to the extremities of the Eaſt; and its ſuperior culture of the vine, the only excellence which deſpotiſm has not annihilated. At the preſent moment, the villages have ceaſed, and there are no travellers in the highways. The capital is in the poſſeſſion of a Kurd[313], a robber both by birth and profeſſion;

[310] Schiraz is famous for the beſt Perſian poets.

[311] Arrian, p. 131, ſays, that Alexander burnt it in revenge for the burning of the Greek temples: but it is hardly a better cauſe for turning incendiary than the ſuggeſtion of a courtezan. Strabo ſays nothing of Thais, but accords with Arrian, p. 730.

[312] At the preſent hour I cannot find that, in compariſon with other Aſiatics, the Perſians have declined from this pre-eminence, except that they are accuſed of fraud and diſſimulation. Two vices, the natural produce of deſpotiſm, and polite manners in a ſtate of decadence.

[313] Kerim Khan, in Niebuhr's time, in the year one thouſand ſeven hundred and ſixty-five. Francklin deſcribes Kerim Khan as a benefactor to Perſia, and in a better light than Niebuhr; but Francklin was at Schiraz in the year one thouſand ſeven hundred and eighty-ſeven, after the death of Kerim, and the tyranny of his ſucceſſors made him regretted.

and

and of the diſtraction conſequent upon the death of Nadir Shah there ſeems to be no end.

There is ſtill a third diviſion of Perſis towards the north, comprehending the mountainous country, which is wild, rugged, and inhabited by barbarous tribes, where the air is cold, and the ſummits covered with ſnow [314]. The barbarians are the ancient Uxii, or modern Aſciacs; and the range called Louriſtan divides Perſis from what the ancient hiſtorians in a large ſenſe called Media. Iſphahan, the modern capital of the empire, is juſt to the north of this chain, and not in Perſis. Theſe mountains extend equally on the north of Suſiana [315], and ſend down thoſe ſtreams which paſs through that province either into the Tigris or the Gulph of Perſia; while the more eaſtern part furniſhes the torrents which water Perſis, and all ſink into lakes, or are exhauſted by derivations for the purpoſes of agriculture. One of the largeſt of theſe ſtreams, called Bend-Emir [316], flows near Perſepolis, and correſponds with the river paſſed [317] by Alexander in his approach to that city, when he came from Suſiana, as the fort Kalaa Seſid, taken by Timour, anſwers to the fortreſs where Alexander [318] defeated Ariobarzanes in his approach to that river. Arrian, in his third book, has unfortunately confounded Perſepolis [319] with Paſagardæ [320]; but the former was the

[314] Κύρτιοι καὶ Μαρδοὶ λῃστρικοί. Strabo, p. 729. Ἐλυμαῖοι καὶ Παραιτακηνοί. P. 732.

[315] Strabo has ſometimes confounded Suſiana with Perſis, as p. 727; but he diſtinguiſhes, p. 728.

[316] The Araxes of Strabo, p. 729; but he errs ſtrangely about the courſe of it. See d'Anville's Memoir.

[317] Thevenot ſays the ſame, part ii. p. 123. Tavernier, vol. i. p. 726.

[318] See Arrian, p. 130. Cheref-eddin, vol. ii. p. 189. Alexander ſeems to have marched more to the north than Timour, in order to attack the Uxii, Aſciacs.

[319] The archives, and a great part of the treaſure, were kept at Perſepolis. Strabo, p. 730; and ſo it appears, from Alexander's haſte to reach it before the treaſury ſhould be plundered, or conveyed away. Arr. lib. iii.

[320] The error is natural, for Parſa gardæ is Perſe-polis, literally tranſlated. The Perſepolis fixed at Eſtakar is determined by Alexander's march.

reſidence

reſidence of the Perſian monarchs, and the latter apparently their place of burial. It is near ſixty miles diſtant from Perſepolis, in the tract called Koilé-Perſis [Perſis between the mountains] by Strabo, which ought to produce other torrents and another lake[321] for their reception, by the nature of the country; and ſuch may poſſibly be found if we obtain a better knowledge of the interior. This town is ſuppoſed ſtill to exiſt under the name of Phaſa, or Phaſa-gerd, which Golius interprets the city of the north-eaſt, becauſe it is cooled by the refreſhing gales from that quarter, which is implied in Phaſa.

SUSIS, or SUSIANA.

To delineate the province and rivers of Suſiana is a taſk of no ordinary difficulty. The ancient geographers are at variance, and the moderns do not appear to have obtained a ſufficient knowledge of its preſent ſtate, to correct the errors, or reconcile the contradictions of their predeceſſors: in regard to the interior, the following diſcuſſion muſt labour under ſimilar obſcurity, but our knowledge of the coaſt has been much enlarged ſince the publication of Mr. d'Anville's Memoir; and if for this reaſon I am enabled to correct his miſtakes, and to explain difficulties for which he had no clue, I ſhall be thought leſs adventurous in combating Cellarius and Salmaſius, who have inveloped the queſtion in erudition, and neglected modern authority altogether.

The fact is, however, that the ancient geographers cannot be underſtood or reconciled, without reference to the actual ſtate of the

[321] There is ſomething like this in d'Anville's maps, Aſie premiere partie, &c. Strabo mentions an Agradatus, or Agradates, here, which was changed into Cyrus, p. 729. This is noted by d'Anville, and refuted.

country; for they have applied different names to the ſame rivers, and the ſame name to different rivers; and the ſame writer has varied his appellations as often as he has copied different authorities. Of this I ſhall produce proof in regard to Arrian himſelf; and though I might have reduced what is neceſſary for elucidating the paſſage of Nearchus into a leſs compaſs, I truſt that the length of the following diſcuſſion will be acceptable to ſuch as think the reconciliation of claſſical geography an object of importance.

After the whole buſineſs was completed, I was informed by Major Rennell that he had been long engaged in diſentangling the ſame intricacies, and treading the ſame ground; a cauſe of no ſmall apprehenſion to me, if his concluſions ſhould appear upon publication to differ from mine; of no ſmall gratification, if they ſhould be found to coincide. I ſhall at leaſt have a generous adverſary to encounter; and as I have no predilection for any ſyſtem, I can, upon better information, retract as freely as I have aſſerted. Truth alone ought to be the object of reſearch; and thoſe, who are not ſo fortunate as to attain it, ought to ſubſcribe [322] to thoſe who do.

Suſiana is ſometimes regarded as a diſtrict of Perſis, and ſometimes enumerated as a diſtinct province. We can hardly trace a time in which it had an independent ſovereign of its own, unleſs it be in the mythology of the Greeks [323]; and nature ſeems to have connected it with Perſis, by a variety of local circumſtances, as

[322] I ſubſcribe to the ſentiment of the modeſt and ingenious Niebuhr:

Il n'y a point de deſcription de voyage ſans défaut, n'y aucun voyageur exempt de tout préjugé, ainſi le parti le plus ſage c'eſt de ne pas défendre ſes opinions avec opiniâtreté. Niebuhr, tom. 1. p. 85. Arabic edit. Amſterd.

[323] In their accounts, Memnon, ſon of Tithonus, was the founder of Suſa.

much as by vicinity. It is ſeparated on the north from Media by a range of mountains common alſo to Perſis, of which the general appellation is Louriſtan; poſſeſſed in all ages by independent tribes, which were confined within their own limits, when the government was ſtrong; and, when it was weak, returned with increaſed avidity to a life of rapine. So far as can be collected from the tranſactions of Alexander, the Uxii and Parataceni were upon the ſouthern face of theſe mountains; the Coſſæi and Elymaitæ[324] on the north; the Uxii lie on the left, between Suſa and the Aroſis; the Parataceni, on a part where the mountains have a much greater breadth, on the north of Perſis. This range, where it riſes on the weſt, approaches, but does not touch[325], the Tigris. In this interval, Mr. d'Anville brings down the Gunedhi, which is the Gyndes[326] of Herodotus ſo much humiliated by Cyrus, and which he conducts into the Tigris juſt above its junction with the Euphrates at Gorno. The rivers or canals of Suſiana are connected with this ſtream, and in this ſenſe it forms the boundary of the province on the Tigris; but as ſoon as the mountains riſe, they run in one uninterrupted chain, covering not only Suſiana and Perſis, but extending much farther towards the eaſt. This chain ſends down all the numerous ſtreams which water the fertile plains below; and there is an error common to Strabo, Al-Edriſi, and Cheref-eddin, that all theſe rivers join the Eulæus, and communicate, by means of that junction, with the Tigris. This opinion, however, is in one ſenſe true; for all the

[324] Elymiotæ, the *Elam* of the Scriptures. Uxii, *Aſciaei*. Parataceni, *Bactiari*. Koſſæi, Kiſſii, *Coſſ's*.

[325] Otter, coming down from Bagdat, marks them at a diſtance, where they firſt begin to ſhew themſelves between Amara and Gorno.

[326] Herodotus, in his firſt book, brings the Gyndes to Opis; there are ſuppoſed to be two cities of this name, but neither anſwers. In his fifth book, p. 397. where he gives the poſt-road from Sardis to Suſa, and where he ſeems to ſay there are four Stathmi from Opis to Kiſſia, [the mountains of Suſis,] it ſeems to agree with Gorno, or ſome place near it.

rivers are united inland by canals, and the policy of the government in all ages, while there was a government, appears to have paid as much attention to this object, and to agriculture, as Egypt itſelf. The fact admits of proof under the later dynaſties, and the journal of Nearchus will furniſh ſome evidence of its antiquity. It is not unreaſonable to ſuppoſe, that this communication was extended to the Aroſis alſo, and by that ſtream to Perſis; and if this were true, the intercourſe between Perſis and Meſopotamia, by an inland courſe, was complete.

The AROSIS.

THE Aroſis, which is the Oroatis of Strabo, Pliny, and Ptolemy, and which Cellarius ſuppoſes to be properly the Arois, Ares [327], or Araxis [328], is the boundary between Perſis and Suſiana; its modern names are almoſt as numerous. T'Ab, or the river, is the title it takes by way of pre-eminence among the Perſians, for it is the largeſt river [329] of the province, a circumſtance peculiarly noticed by Nearchus. It is ſtyled Ab-Ar-goun by the hiſtorian of Timour; whether from a town of that name upon the higher part of its courſe, or whether by corruption from Rhegian [330], ſometimes written Ar-Rhegian, I cannot trace: and Endian [331] is the name it bears in our

[327] Who ſhall give us the etymology of rivers? Bruce found a Skelti, and an Arvon, or Avon, in Abyſſinia. Aar is a river in France, Arno in Italy. What language ſhall be found that ſhall furniſh names common to Abyſſinia, Media, Italy, France, England, and Scotland? I have an obſcure reaſon for thinking that Ar, or Aar, uſually denotes confluence.

[328] Araxis is a name common to a variety of rivers in different provinces of the Eaſt. The Armenian Aras, which falls into the Cyrus, and ſo into the Caſpian Sea, is the moſt celebrated. This is the *pontem indignatus Araxis*.

[329] ὅσοι ἐς τὸν ἔξω πόντον ἐμβάλλουσι is the expreſſion of Arrian, not very accurate.

[330] Argoun I find as the proper name of a man. Otter, vol. i. p. 189 Ergoun, ſon of Ibka, fortified Kaſvin: but it muſt be obſerved that the termination *ain* paſſes into *oun*; for Otter writes Kieſirain for Kaſeroun, and thus Arreghian may become Argoun.

[331] Niebuhr writes it Hindian.

modern

modern charts, from a town upon its banks, a few miles diſtant from the ſea.

This river is formed from a variety of ſources, which ſpring out of the mountains of Louriſtan; and as the chain is of greater breadth in that part of its range, the river ſeems to be large in proportion. Alexander and Timour, in their march from Suſa to Perſis, both inclined to the mountains, in order to attack the Uxii, or Aſciacs, who lie in that direction; and they both paſſed the ſources of this ſtream, at a conſiderable diſtance [332] from the ſea. In the march of Timour, I can diſcover ſeveral ſources on the weſt of this river, which the commentator upon Cheref-eddin carries into the Eulæus [333], but which, I agree with d'Anville, ought to be carried into the Aroſis. Alexander and Timour both proceeded acroſs this river, to attack a fortreſs in the mountains, which formed the northern frontier of Perſis, and which is called Calaa-ſefid [334] by Cheref-eddin. This fortreſs correſponds with the poſt Ariobarzanes [335] defended againſt Alexander; but at the ſame time Alexander marched through the mountains on the north, he detached Parmenio, with the groſs of the army, by the ordinary [336] road to Perſis. This is the road which continues to this day, if there be any road, which Al-Edriſi deſcribes as cutting the Aroſis at Ragian, about thirty miles from its mouth, and where, he ſays, there is a bridge called Baccar, at a bowſhot's [337] diſtance from the town. He gives a variety of routes

[332] Timour at Kerdiſtan, 70 miles from the mouth, according to d'Anville. See Cheref-eddin, vol. ii. p. 185.

[333] Cheref-eddin calls the river of Suſa, Ab-Zal; in which d'Anville ſays he is miſtaken.

[334] Calla-al-Sefid, the canal or cut of Sefid; alluding to the dyke upon the Bend-Emir. Otter, vol. ii 51.

[335] Le Bruyn mentions a tradition of this ſiege ſtill exiſting among the natives.

[336] κατὰ τὴν ἀμαξιτὸν τὴν ἐς Πέρσας φέρουσαν. Arr. lib. iii. p. 130.

[337] Nub. Geog. p. 126.

through

through Perſis, all verging to this point; and, from the ſize of the ſtream, here probably was the firſt place where it would admit of a bridge.

The mountains which give birth to the Aroſis do not approach the ſea, nearer than the neighbourhood of Rhegian; but ſeem to leave a low country on the coaſt, correſponding with the Kermeſir on the gulph. This muſt have always left Suſiana open to the Perſians, and have been the means of keeping it in dependence, as was its conſtant ſtate; but on the north the range ſweeps round till it unites with that chain which forms the back ground of the Kermeſir, and this chain, according to d'Anville, no river paſſes. The ſources, therefore, which Alexander and Timour found in the neighbourhood of Calaa-ſefid, all contribute to form, not the Aroſis, but the Bend-Emir, or *Noble* River, which paſſes on in the vicinity of Schiraz and Perſepolis till it is loſt in the lake Baghteghian, or exhauſted in adorning and fertiliſing the beautiful country of Koilé-Perſis[338]. We have now the Aroſis diſtinct, according to d'Anville, and I have found nothing in ancient or modern hiſtory to contradict his ſyſtem; nor do I think that any future diſcovery will invalidate it, farther than perhaps to find a different iſſue for ſome of his minuter ſources. This Aroſis is the eaſtern boundary of Suſiana, where Nearchus is now anchored; and deferring the intermediate ſtreams for the preſent, I ſhall proceed to conſider the Euphrates and the Tigris united in the Schat-el-Arab, which forms the *weſtern limit.*

[338] Cœlé-Perſis, like Cœlé-Syria, Perſis between the mountains.

SCHAT-

SCHAT-EL-ARAB, or MOUTH of the EUPHRATES and TIGRIS united.

THE Euphrates and the Tigris both preſerve to this day, among the natives, the ſame appellation aſſigned to them by Moſes [339] in the book of Geneſis, for he ſtyles the one Hu-Pherát, or Pherát, and the other Hid-Dekhel [340], two names which are ſtill preſerved in the country with no greater variation than Ph'rat and Deghel, or Dejel. Theſe two rivers, like the Ganges and Burrhampooter, riſe at no great diſtance from each other in Armenia; and, after ſeparating to embrace the great tract called Meſopotamia, unite again, like thoſe two ſtreams, at Gorno or Khorna, about an hundred and thirty miles diſtant from the Gulph of Perſia. D'Anville has ſtrangely curtailed [341] this diſtance; for in his map of Aſia he makes

[339] Gen. ii. 14. Pherat is uſed frequently in Scripture with the pronoun, as הוּא פְּרָת Hu-Pherát, *The* Pherát, or *that* Pherát, by way of pre-eminence; and is derived by the commentators from פָּרָה *to produce fruit*, on account of its *fertiliſing* the country by canals, &c. from פר and פרץ to *burſt* or *ſpread*, becauſe it *overflows* its banks, and from פרר פרם to *divide*, becauſe it *ſeparates* or *bounds* the deſert. The Greeks, as Hoffman juſtly ſays, *more ſuo*, derive Euphrates from εὐφραίνειν.

[340] Hid-Dekhel is written חִדֶּקֶל Kid-Dekhel, and by the Samaritan MS. חִדְּקֶל Hid-Dekhel, as we are informed, from חד to *dart forth*, חָדַד *loud*, or from חר to *penetrate*; with the addition of קל, which implies *ſwift* motion; a ſenſe agreeable to the opinion of the Greeks, who interpret the Tigris, ſometimes *ſwift*, and ſometimes an *arrow*. It is remarkable that the pronoun *Hu* ſhould preſerve itſelf in the Greek *Eu*-Phrates, which it certainly does, unleſs *Eu* is from Ab, Av, Au, *water* or *river*; and that none of the authorities ſhould ſuffer us to write Hi-Dekhel, ſo as to ſearch for a primitive of *Dekhel* rather than *Khalal*. [See Bochart. Phaleg. 119. Dikla, *urbs palmarum*, Chald. Deut. xxxiv. 3. Quære annon Meſopotamia regio Palmarum? Dekhel is aſſuredly the Deghel of the Arabs, the Diglath of Joſephus, and Diglito of Pliny; and from Degel (according to Bochart) the Greeks made Deger, Teger, and Tigris.] An idea occurred to my own mind, that as Hu expreſſed the *male*, and Hi the *female*, (הוּא ille, הִיא illa,) there might have been ſome alluſion to the confluence, or the marriage of the rivers, or that Deghel was marked by the feminine pronoun, as Pherát is by the maſculine; but I am forced to abandon this ſuggeſtion by authority that I ought not to diſpute.

[341] From the mouth to Baſſora 100 miles,
to Khorna 75
175
Ives, p. 227.

it

it leſs than ſeventy miles, and in his two latter maps has extended it to ſomething leſs than an hundred: but M'Cluer can hardly be miſtaken in making it ſeventy [342] up to Baſra only; for he navigated this channel more than once, and has given directions for the courſe up to that city. Khorna ſignifies an horn [343] in Arabic, evidently marking its connexion with the Greek, Latin, and Engliſh; and here the river divides *upwards* in that form. From Khorna, down to the diviſion of the ſtream again which embraces the Delta, is the part properly called the Schat-el-Arab, or river of the Arabs. From that diviſion downwards, the weſtern, or direct channel, ſtill navigated by European veſſels, is called Coſſiſa-Bony, or Bouna, in oppoſition, as I conceive, to the fartheſt channel eaſtward, called Deree-Bouna [344], from Deree, an iſland, at its mouth; and in treating of this weſtern ſtream, I ſhall be obliged, for the ſake of perſpicuity, to call the whole channel from Khorna to the ſea by the name of Schat-el-Arab. The junction formed at Khorna was certainly known to Ptolemy, and, I am perſuaded, was the grand confluence in all ages; but Pliny and Arrian as certainly give two mouths, one to the Tigris and another to the Euphrates; the latter, I ſhall hereafter ſhew, was the Khore-Abdillah with which d'Anville ſeems unacquainted; and hence he has been led into a variety of

[342] He makes it ninety from point to point, that is by the windings, p. 33. Ives, p. 227, makes it 100.

[343] The æra of Dil-kharnim, or Alexander, from his figure with the *horns* of Hammon, as is ſuppoſed by ſome, is well known in Aſia; and in this compound we find the plural of Kharna, or Khorna.

The Greeks and Latins deſcribed rivers by a bull, as ſome imagine from the roar of waters; but Achelous loſt an horn by Hercules, that is, as mythology informs us, had one of his ſources intercepted, and other rivers are ſtyled Tauri *formes*.

[344] Bouna, or Bourna, I ſuſpect to ſignify a *ſtream*. Bournabaſchi is the *head of the ſtream*, in Chevalier's account of the Troas. Whence is the connexion with our Engliſh-Bourne? which ſignifies a *ſtream*, or a *boundary*.

errors,

errors, which disfigure his learned Memoir upon the Mouths of theſe two Rivers. I ſhall, however, firſt conſider the great Delta, and afterwards return to treat of theſe difficulties.

The Delta of Suſiana is much more properly than the Delta of Egypt incloſed and divided by ſeven [345] ſtreams [346], which are called, 1. The Coſſiſa-Bony [347]; 2. The [348] Bamiſhere [349]; 3. The Caroon, or Karûn; 4. The Selege; 5. The Mohilla; 6. The Gaban; and, 7. The Deree-Bouna. Theſe are names which I obtain from a very curious anonymous chart of Mr. Dalrymple's, and are apparently the titles by which theſe channels are known to the Karack pilots. This chart explains the journal of Nearchus as perfectly as if it had been compoſed by a perſon on board his fleet. Three of theſe ſtreams, after cutting the Delta, paſs through a ſhoal which is called the Ali-Meidán, (the *race-ground* of Ali,) as is ſuppoſed from its level ſurface, extending out twelve, and in ſome places ſeventeen miles, from the coaſt of the Delta. The Meidán is rarely [350] or never dry, even at the time of ebb; but the channels which paſs between it have a conſiderable depth of water; theſe are ſtyled Khores, that is, limits or diviſions of the ſand; and thus Khore Gufgah is the iſſue of the Bamiſhere channel, Khore Muſah of the Karûn, and Khore Waſtah of the Selege. The general name of the land they

[345] Small channels are ſometimes cut for purpoſes of communication or agriculture; but they vary with the fluctuation of the government. Theſe are natural channels.

[346] Ten ſtreams according to Pliny, lib. vi. c. 27.

[347] Khôre Hälte. Niebuhr.

[348] Niebuhr writes this Bâckmeſchîr, which is done by adding k to the guttural in Bahmiſer, the natural conſequence of a deep ſound in the throat; ſo Hân, Khân, Cawn. Shuſhan, Huſan, Khuſan, or Khooſan, ſhewing the relation between the ancient Suſa and modern Khooſiſtan.

[349] The Backmeſchîr of Niebuhr, as next in order to his Khore Sable ought to be the Karûn: but of this, from Mr. Jones's intelligence, I have reaſon to doubt.

[350] Only dry in part, that is where the water is leſs than two fathoms. Mr. Jones.

ſeparate on the Delta is called Gaban, of which I am not able to give the limits; but the tract between the Coſſiſa-Bony and the Bamiſhere[351] is particularly called Meuan and Muçan[352], correſponding with the Meſene of Xiphilinus, and Khore Muſah, with Ptolemy's river Moſæus[353], which none of the modern geographers know where to place. At the head of this Meſene, near the Haffar Cut, was placed the Spaſini Charax, or fort of Spaſinus. Mr. Dalrymple's anonymous chart has a fort there at preſent called Old Haffar Fort, with another on the oppoſite ſhore; both exiſting when Thevenot went by this courſe up to Baſra, and both intended by Spaſinus[354], and all his ſucceſſors in power, either to guard the channel or to exact a tribute. I mention this place for two reaſons; firſt, becauſe Alexander is ſaid to be the original occupier of this ſite; and, ſecondly, becauſe Cellarius is at a loſs, and d'Anville is

[351] I ſuſpect, but have no means to prove it, that Bahh-Miſhere is related to Bahh-Meſene, which extended perhaps to the Karun.

[352] See M'Cluer, p. 30. with Dalrymple's query, Mucan or Muſan? and ſee p. 32. note. Marcian writes Μαγάιε for Ptolemy's Μασάιε, ſee p. 17.; ſo that the difference between Mugan and Muſan is ancient as well as modern. Salmaſius reads Μαγάιε.

[353] See Cellarius in Suſiana, and d'Anville's Diſſertation. To make Khore Muſah exactly correſpond with the Moſæus of Ptolemy, it muſt be the iſſue of the Karûn, as it is in M'Cluer's chart. The Orientals write Mouſa, pronounced Mooſa, for Moſes; the Greeks wrote Μωυσῆς, Moouſes, and in this form we eaſily find the Moſæus of Ptolemy. Muſah, or Muſa, is pronounced, as we ſhould utter Mooſa, and not Muſa, or Muſe. An Arab would doubtleſs attribute Mooſa to Moſes, and the name of the prophet was ſufficiently current in the Eaſt to fix his title here, even previous to the age of Ptolemy, but it is a name common to many places, as well as one ſpecified by Niebuhr in Yemen. It will be proved hereafter, that Ptolemy reckoned the Dorack channel as the mouth of the Eulæus; and then as he mentions but three [the Tigris, Moſæus, and Eulæus]. The Moſæus would regularly be the Karûn, and ſo anſwer individually to Khore Mooſa; a proof of this is, that his Oroatis, or Aroſis, ſucceeds next to his Eulæus.

[354] Paſinus, Paſines, &c. &c. It is the name of an Arab before the time of Pliny, like a Sheik Soleiman of the preſent day.

It is not neceſſary to fix on this identical ſpot for the fort; by Pliny's account it ought to be nearer the ſea.

not without his doubts; but before I enter into this queſtion, I muſt digeſt the courſe and order of the channels. The Schat-el-Arab would naturally have but two, which are the two weſtern ones, the Coſſiſa-Bony and the Bamiſhere. The Bamiſhere was a channel frequently navigated by the country veſſels till within theſe few years; when it was obſtructed by an Arab Sheik, with a view of drowning the country on the Coſſiſa-Bony; but operated contrary to his expectation, in clearing that channel, and removing the ſands at its mouth. This tranſaction took place while Mr. Jones was reſident at Baſra, and is recorded by Niebuhr as happening to the Khore Sable[355], which is perhaps his name for the Bamiſhere.

The five weſtern channels ſeem to derive their origin from the Eulæus, or river of Suſa; this ſtream divides in the interior of the province; at what point is difficult to determine: but I can diſcover clearly, that on approaching the Delta the weſtern branch takes its title from Karûn, a town ten or twelve miles above the Delta, as the eaſtern channel does from Deurak, Dorak, or Deree, another inland town, that extends the influence of its name down to the coaſt. The weſtern branch, upon its approach to the Delta, ſubdivides into four; the firſt carries its name of Karûn through the Delta to the ſea. This was the channel navigated by the country veſſels in Thevenot's time, from Bender-Regh to Baſra; and the three others are the Selege, the Mohilla, and the Gaban. The Dorack ſtream of the Eulæus, after ſeparating inland, comes to the eaſt, and, as it touches the Delta, joins on one ſide with the Gaban river, and with another arm, which we may call a ſixth channel,

[355] Sable ſeems an European term, and French.

encircles an iſland named Deree, from this Deree, or Dorack ſtream; and there is a tract within land ſtyled Dorac-Stan, or Dorgheſtan, from the ſame origin. Now it is remarkable that Ptolemy notices a Dera inland, which Cellarius knows not how to fix; wherever it is, it gives a title to this river, as Karûn does to the weſtern branch; it communicates its name alſo to Deree, the iſland, where we are to look for the Kata-Derbis of Arrian, which d'Anville has miſtaken; and in Dorgheſtan I find the Margaſtan of Arrian, which he calls an iſland at Kata-Derbis. The Dorack river is no very conſiderable ſtream, and according to Mr. Dalrymple's chart, dry at low water; it was probably of more importance formerly, either by natural or artificial means, when the navigation of the province was the object of government. Between the mouth of this channel and the Khore Waſtah there is a ſhoal, correſponding with the Ali-Meidan, called Carabah, or broken [356] ground, becauſe the ſoundings vary in an inſtant. The native pilots ſay, there is a town ſunk under water here, and that the lead is ſometimes dropt upon the tops of houſes, and ſometimes into the ſtreets, which makes the difference ſo immediate. This is a circumſtance connected with the paſſage of Nearchus, either through or over this ſhoal, as will be noticed in its proper place. And again to the eaſtward of the Dorack, there is another ſhoal named Barçan [357], extending to the mouth of the Aroſis. The extent of all theſe ſhoals naturally obliges veſſels to be careful how they approach the coaſt, and the ground of the Delta being proportionably low and level, is rarely viſible except by the ruſhes which grow upon it. When Thevenot went up the Karûn, he compares the country to Holland;

356 Mr. Jones. 357 The Sinus Arenoſus of Ptolemy, or that part of it neareſt Deree.

and

and a Holland it would be, with induſtry and a good government; for a ſoil, which is the accumulation of ſlime, ought naturally to be fertile. In his time, there were only a few mean villages diſperſed here and there, with a ſmall quantity of cattle and ſome plantations of the date tree, which is the ſtaple of the country. Within theſe few years, it was poſſeſſed by the Arab tribe of Kaab[358], under a Sheik called Soleiman; he ſeems to have bettered the cultivation, and, by the poſſeſſion of a piratical fleet, to have rendered himſelf formidable to the Turkiſh government of Baſra on the one hand, and to the Vakeel of Schiraz on the other[359]. He was afterwards involved in a quarrel with the Engliſh, on account of two conſiderable veſſels which he had taken, but at laſt fell by the hands of his own people[360]. Such is the nature, and ſuch are the inhabitants of the Delta, and ſuch are the branches of the Tigris and the Eulæus which form it. There may have been a time when theſe two rivers flowed into the ſea without farther connexion than their vicinity; but there is now a canal which joins them, called the Haffar, which comes out of the Schat-el-Arab, about eight-and-twenty miles below Baſra, and runs eaſtward till it touches the Eulæus, or Karûn, juſt at the point where it approaches the Delta. This canal is older than the time of Alexander, for Nearchus mentions that part of the fleet paſſed through it into the Tigris, when Alexander came down the Eulæus to the ſea. I ſhall treat more of this hereafter; but I muſt remark at preſent, that inland navigation is the characteriſtic of the province; and that neither Cellarius or d'Anville have ſufficiently attended to this object. Cellarius, who allows that the Moſæus of Ptolemy muſt be

[358] Kiaab of Otter, and Kiab. [359] Niebuhr. [360] Mr. Jones.

between

between the Tigris and Eulæus[361], cannot comprehend how this canal of Haffar could paſs between theſe two rivers, without exhauſting itſelf into the Moſæus; but he might now ſee, by a glance at Mr. Dalrymple's chart, that we have[362] a Tigris[363] and Eulæus[364], with the Moſæus[365] between them, and the Haffar canal paſſing at the head of the Delta from the Tigris to the Eulæus.

Mr. d'Anville[366] has been led into a greater error; for he places the Meſene weſt of the Schat-el-Arab, inſtead of eaſt. And what induced him to adopt this ſyſtem is by no means apparent, as he knew well that the ancient geographers place the fort of Spaſinus in Meſene, and he has himſelf placed this fort eaſtward of the Schat-el-Arab, though he places Meſene on the weſt. Upon conſidering this opinion, I am induced to think that Mr. d'Anville is miſled by Ptolemy's Sinus Meſanius; and if that can be accounted for, the whole coaſt may be adjuſted, and all the ancient geographers made conſiſtent with each other.

D'Anville's Meſene is the Gezirat Khader of Thevenot, the Dauaſir of Niebuhr, lying between the Schat-el-Arab and the Khore Abdillah; but Ptolemy's Sinus Meſanius is certainly not the coaſt of this tract; for his two mouths of the Tigris are mani-

[361] Et quia Moſæus intervenit Tigrim et Eulæum, oſtium quoque ejus, ſi in mari eſt, ut tradit Ptolemæus, propius utique ad Tigrim accedit, quam Eulæi. Quòd vero foſſa illa ex Tigri in Eulæum haud longè ſupra oſtia, uti ex Arriani verbis apparet, ducta fuit, dubites quî foſſa per aliud flumen, Moſæum puta, tranſverſa duci potuerit, ut non effluceret per flumen illud: niſi ſupra foſſam Moſæus vel Tigri vel Eulæo ſe adfuderit. Cellar. lib. iii. c. 19. Suſiana, p. 483.

[362] Ptolemy notices only three of theſe mouths, which correſpond.

[363] Coſſiſa-Bony.

[364] Dorack is the Eulæus of Ptolemy.

[365] Karûn.

[366] Memoir, p. 180.

feſtly

feſtly the Schat-el-Arab and the Khore Abdillah, as appears by his placing Terédon between them; and his Sinus Meſanius as manifeſtly commences not between them, but at the mouth of the Khore, and extends down the weſtern ſide of the gulph. On looking down the gulph in this direction, I find the bay of Grane [367], with three iſlands at the entrance; one of theſe neareſt the ſhore is called Muchan; this, I apprehend, gives name to the Sinus Meſanius; and when I look into Ptolemy for the termination of this on the north, I find the longitude aſſigned to it is 79°, ſpecifically the ſame as his weſtern mouth of the Tigris, that is, the Khore Abdillah.

Thus Mercator interprets the text, and thus the longitudes and latitudes appear in Ptolemy:

	Long.	Lat.
p. 144. Sinus Meſanius, -	79° 0′	— 30° 10′
p. 154. Sinus Meſanites, -	79° 0′	— 30° 10′
p. 149. Oſtium Tigris Occidentale,	79° 0′	— 30° 34′
p. 145. Teredon, - -	80° 0′	— 31° 10′
p. 149. Oſtium Tigris Orientale,	80° 30′	— 31° 0′
p. 149. Vallum Paſini, -	81° 0′	— 31° 0′
p. 149. Moſæus, - -	82° 0′	— 30° 40′

The error of theſe longitudes is foreign to the inquiry; but their relation and congruity prove that the termination of the Sinus Meſanius is at the weſtern mouth of the Tigris; that Terédon is between the weſtern and eaſtern mouth, conſequently that the Khore Abdillah is Ptolemy's weſtern, the Schat-el-Arab his

[367] There is a Graan noticed by Ptolemy, of Suſiana; it can have no relation to this but in long. 82. which brings it to the middle Grane. See p. 157.

eaſtern

eaſtern Tigris; and that the fort of Paſinus is between the Schat-el-Arab and Moſæus or Karûn.

This bay, conſequently, cannot be on the coaſt of d'Anville's Meſene, for it is ſouth-weſt of the Khore inſtead of north-eaſt; and if we could obtain the interpretation of Muçan [368], we ſhould probably find the reaſon why it is attributed both to this iſland at the bay of Grane, and to that tract which is incloſed between the Schat-el-Arab and the Karûn, which is the Moſæus of Ptolemy, and which gives name to the Meſene of Xiphilinus, Joſephus, and other hiſtorians.

With the Khore Abdillah d'Anville was not properly acquainted; he ſuppoſes it the ancient mouth of the Euphrates; and ſuch it is according to Pliny and Arrian, but no ancient author of eſtimation except Ptolemy ever made it a mouth of the Tigris. This is the firſt ſource of his miſtake, and he now makes this a mouth of the Tigris, which in another part he labours to prove the Euphrates. The Meſene [369] of Pliny is ſo confuſed, that I ſhould be thankful for a conſtruction of the paſſage. Mr. d'Anville ſays, he carries it above Seleucia; if ſo, it is another region with which we have no

[368] Une bande de terre, iſolee par un canal. D'Anv. Geog. Anc. tom. ii. p. 201. If this be true, it accounts for both, and for the Meſene of Pliny.

[369] Tigris .... luſtratis montibus Gortyæorum circa Apamiam Meſenes oppidum, citra Seleuciam, Babyloniam, cxxv. M. paſſ. diviſus in alveos duos, altero Meridiem ac Seleuciam petit, Meſenem perfundens: altero ad Septentrionem flexus ejuſdem gentis tergo Cauchas ſecat. Ubi remeavere aquæ Paſitigris appellatur. Poſtea recipit ex Media Choaſpem.

In the courſe of four lines here is a deſultory ſtep from the Curd mountains to the mouth; but d'Anville, by the help of Apamia, finds out this Meſene. See Geog. Anc. tom. ii. p. 200. Cellarius, vol. ii. p. 462. See Ammian. Marcel. lib. xxiv. p. 399; where Meſene evidently means a tract between the two rivers: but this Meſene is above Babylon, unleſs, by joining it with Mare Magnum, we ſhould prefer the lower. By *ubi remeavere aquæ*, he ſeems to mean as high as the tide flows, in which he is not correct, for the tide flows above Khorna.

concern.

concern. But let us conſider next the Meſene of Xiphilinus. Theſe are his words: "After Trajan [370] had taken Cteſiphon, he deter- "mined to navigate [371] the Red Sea, that is, the Gulph of Perſia. "...." There is an iſland there formed by the Tigris, called Meſ- "ſana, under the government of Athambilus; this Trajan reduced "without difficulty, but was himſelf brought into great hazard from "the ſeaſon of the year, the violence of the ſtream, and the inun- "dation of the tide. The inhabitants of the fortreſs of Toſpaſinus "relieved him, however, by their friendly reception of him into "the place. This fortreſs is under [372] the government of Atham- "bilus." D'Anville places the fort of Spaſinus where I do, but the diſtrict of Meſene on the other [373] ſide of the Schat-el-Arab. This paſſage proves that the fort is in Meſene, and the Meſene between the mouths of the Tigris; that is, between the Tigris and the Moſæus. It is poſſible I may be miſtaken in aſſigning a poſition to the fort. But there is no error in replacing the Meſene [374] eaſt of

[370] Poſtquam Cteſiphontem cepit [Trajanus] ſtatuit mare rubrum trajicere .... appellant Meſſanam quoque inſulam Tigris in qua Athambilus regnabat, nullo labore cepit atque iis in locis propter vim hyemis et rapidum Tigrum æſtumque maris in magnum periculum venit. Qui vallum Toſpaſini habitabant (nam ita ab incolis appellabatur eradtque in ditione Athambili) Trajanum amice receperunt. Xiphilin. Traj. p. 55. Ed. Baſil.

Toſpaſini is, I conclude, a corruption from the Greek τὸ Σπασίνε χῶμα; for, we learn, that the fort was erected upon a mound of raiſed earth, to give it ſecurity both from an enemy and inundation; for the whole of the Delta is a level. See Cellarius, vol. ii. 448; who reads τὸ Τοσπασίνε contrary to my ſuppoſition.

[371] Trajicere.

[372] Rather *in the territory of Athambilus*, in di[illegible]e.

[373] See the map to his Memoir, and that of the Tigris and Euphrates.

[374] See Joſephus, lib. i. Antiq. c. 7. Stephan. Σπασίνε χάραξ πόλις ἐι τῇ μέσῃ τῆ Τίγρητος Μεσόπη, &c. all adduced by Cellarius, vol. ii. 488. but he is not contented to be right. He adds, Aberrat autem in eo quod in mediâ Meſenâ illâ, quam Tigridis oſtia conſtituunt, poſuit.

I build much upon the modern name of Muçan, and the Khore Mooſa, and perhaps it ought always to have been written Moſena, or Mooſena, from Muçan, which the Greeks made Meſene, becauſe they had a Meſſene of their own. It is their practice in a thouſand inſtances. I have, however, found reaſon to ſuppoſe that Meſen ſignifies an iſland, or perhaps more properly land ſurrounded by the arms of a river. See note 363.

the Schat-el-Arab inſtead of weſt. The juſt eſtimation of Mr. d'Anville's name has led me into this diſcuſſion. I have now done with the Delta of the Tigris, and proceed to the Euphrates.

KHORE ABDILLAH, ſuppoſed MOUTH of the EUPHRATES.

THE Euphrates appears always to have formed its principal junction with the Tigris at Gorno, or Khorna; but as, from the moſt early ages, it ſent off canals on both ſides, for the purpoſes of agriculture or communication, ſo it has happened that one of theſe which paſſed by Old Baſra, and fell into the Khore Abdillah, has been miſtaken by Pliny and Arrian for the real mouth. Arrian is ſo perſuaded of this, that when Nearchus anchors at Diridotis, or Terédon, in the Khore Abdillah, he calls it anchoring in the Euphrates: and he ſays in another part of his work, that this mouth, or khore, is almoſt choked in conſequence of the derivations which drain the ſtream above. The Khore Abdillah, upon the Engliſh charts, appears larger than any khore of the Tigris; and this circumſtance, with which d'Anville was unacquainted, would have confirmed him, if he had known it, in his ſyſtem, that it is the original mouth of the Euphrates. It is remarkable that Ptolemy gives no mouth to the Euphrates; his weſtern iſſue of the Tigris, that is, the Schat-el-Arab, is in [375] latitude 30° 34′, and his junction of the Euphrates with the Tigris is in latitude 34° 20′, making a difference of 3° 46′; evidently much too large; but as evidently pointing out the confluence [376] inland, as Khorna does at this day. Strabo doubtleſs thought the Khore Abdillah to be the mouth of the Euphrates, by placing Terédon [377] on its bank; but Solinus [378] aſſerts, that the

[375] P. 149.

[376] So Mercator underſtands it, as appears by his diſtorted map.

[377] P. 80.

[378] P. 66. Sol. Tigris Euphratem defert in ſinum Perſicum.

Tigris

Tigris carries the Euphrates into the Perſian Gulph, and Pliny, who joins it to the Paſitigris, (by which he means the Schat-el-Arab,) evidently alludes to the original mouth at the Khore Abdillah, which the Orchoeni [379] had obſtructed; and ſo long had it been obſtructed in his time, that he no longer places Teredon on the Euphrates, but ſays it lies below the confluence of the two rivers [380].

Let us now advert to the Khore Abdillah itſelf, which will afford a clue to unravel all theſe difficulties. The ancient kings of Aſſyria, Chaldea, and Babylon underſtood the value of inland canals, as well as the Egyptians, Indians, Chineſe, or the modern commercial ſtates of Europe. In Egypt, and on the ſide of the Euphrates, all that was gained out of the deſert was juſt ſo much added to the empire; and thus, as we find a cut parallel to the Nile for near four hundred miles, ſo Niebuhr is of opinion, that there was a canal running weſtward of the Euphrates from Het [381] more than ſix days' journey above Babylon [382], till it fell into the ſea at the Khore Abdillah. This is an extent of more than five hundred miles; and, however great, is not ſuperior to the magnificent deſigns of the age [383] to which it is attributed. It is countenanced, likewiſe, by

[379] Lib. vi. c. 27. Euphratem præcluſere Orchoeni, nec niſi Paſitigri defertur in mare.

[380] C. 28.

[381] Het is on the wind of the river, near Kunaxa, where the ten thouſand fought Artaxerxes, according to d'Anville.

[382] The language of Al-Edriſi is very ſtrong in confirmation of this opinion. After bringing down the Euphrates to Het and Enbar, he adds,

Reliqua vero pars Euſratis fluens e Rahaba a *tergo* deſerti in varia dividitur brachia quorum unum perget ad Tſarſar aliud ad Alcatſr [al Khaleri], aliud etiam ad Sura quartum denique ad Kufam [juxta Pallacopam], et omnia iſta brachia varios in lacus ſeſe immergunt, p. 197.

If we can interpret this as a canal commencing at Rahaba, that place is not far from Thapſacus, two hundred and fifty miles higher up than Niebuhr carries his canal.

[383] That age of the Anakim, or Giants, as Bryant ſtyles them, produced the Pyramids, the Lake Mœris, the Obeliſks, the walls of Thebes, Babylon, Tiryns, and Orchomenus, with other monuments of magnificence in various parts of the world. Were theſe the effect of numbers or mechanic powers?

the accounts we have in Herodotus and Diodorus, of the reſervoirs formed above Babylon, to withdraw or feed the ſtream at pleaſure; by the exiſtence of the two lakes below Babylon, near Meſchied Hoſſein and Meſched Ali [384], the Pallacopas of Arrian; and by a variety of cuts, ſome of which remain to this day, and ſtill fertilize the deſert; the remains of towns [385] alſo noticed by almoſt every traveller in the caravans between Baſra and Aleppo, all contribute to the probability of the fact. They flouriſhed while the canals flowed, they have periſhed by the devaſtation of the Arabs, and the neglect or inability of the government to maintain the ſupply of waters. If ſuch a canal as this exiſted, it communicated with the parent ſtream at various points; and ſuch a communication as this, d'Anville has pointed out at Nahar Saleh, about five-and-thirty miles above Khorna; he brings this down parallel to the Schat-el-Arab, gives it another communication [386] with that channel, near Baſra, and afterwards conducts it into the Perſian Gulph, in the direction of the Khore Abdillah; this is the ſtream he concludes to be the ancient courſe of the Euphrates, and ſuch it was in the eſtimation of Pliny, Strabo, and Arrian. D'Anville, with the aſſiſtance of Texeira, finds this channel now dry, and ſtyles it the Choabedeh [387], which I ſuſpect to be only a corruption of Khore Abdillah, and this dry channel certainly exiſts, for Mr. Jones, when reſident at Baſra, has ridden along it many miles.

Khore Abdillah takes its modern title from a name of no little importance in Mahometan mythology, for Abdillah is the ſon of

[384] Bahr-nedsjef is the name of this lake. Niebuhr, vol. ii. 184. Amſt. edit.

[385] See Niebuhr, ibid. El Khader, ten or twelve leagues from Meſched Ali.

[386] By means of a cut called Oboleh, or Obolla, ſufficiently noticed in Oriental geography.

[387] Which he derives from Bedeh, a tent of the Bedouins.

Annas,

Annas [388], who was porter to the prophet himſelf; his tomb is in the neighbourhood of Zobeir, and this Khore is a Criſſæan Gulph [389] for ſuch votaries as come to pay their devotions to his relicks. At Zobeir, or Ghibel [390] Senâm, in its neighbourhood, d'Anville places Orchoe, becauſe Pliny ſays, the Orchoeni diverted the ſtream of the Euphrates; but Pliny only adds their name to the ſame circumſtance mentioned by Arrian, in the neighbourhood of Pallacopas, or Bahr-Nedsjef, and every ancient teſtimony whatſoever, except Ptolemy, places Orcho in the ſame ſituation [391]. Ptolemy ſays, it is near the gulph; but this aſſertion ſeems ſo indefinite to Mercator, that he has carried it up to the lakes; and there, the latitude [392] aſſigned to it authoriſes him to place it: but d'Anville is not content with bringing Orchoe here, unleſs he annihilates Old Baſra. Baſra [393], Bozra, and Boſara, is a name applicable to any town in the deſert, it ſignifies rough or ſtony ground; and thus we have a Boſara in Ptolemy near Maſkat, and a Bozra familiar in Scripture, denoting an Arabian town in the neighbourhood of Judea, taken by the Maccabees. Such a Baſra, Niebuhr not only ſuppoſes in the ſite of Zobeir, ten or twelve miles weſt of the preſent Baſra, but confirms it by the common belief and tradition of the country; he adds, what amounts

[388] Niebuhr, vol. ii. p. 182.

[389] It brings them within fifteen miles.

[390] Niebuhr writes Dsjabbel, which ſignifies a *mountain*. Thus Ætna ſtill preſerves its Saracen name Ghibello. It is, therefore, a ſoleciſm in reality to ſay Monte Ghibello, but this ſoleciſm pervades all countries; the unknown language gives a name, which ſignifies mountain, and the language in uſe adds another mountain to it.

[391] See Salmaſius, p. 703. Cellarius, Hondius, &c. &c.

[392] 32° 40′, p. 145.

[393] Gol. ad Alfrag. p. 120. *Terra craſſa et lapidoſa.* But ſee בוצרת, under בצר. Botſrath deſertum a Batzar clauſit, quia clauduntur aquæ.

Bozra is mentioned as early as the age of Abraham. Gen xxxvi. 33. Iſ. lxiii. 1. &c. &c. From hence Bazar for an emporium, and urbs munita, quia *circumclauditur*; to which the Burſa of Carthage is allied.

to proof, that Haſſan, Zobeir[394], and Tella, are buried here, and their tombs viſited, who are all mentioned in Oriental writers as interred at *Baſra*. Zobeir gives his name to the preſent town[395], and his tomb is ſtill frequented. This, then, is the ancient city by which the channel paſſed, which is ſtill called Dsjarri Záade, and Haſſé Záade, by the natives; and this is the channel which, entering the head of the Khore Abdillah, was the mouth of the Euphrates, in the opinion of Strabo, Arrian, and Pliny. Where it left the Euphrates above, whether at Nahar Saleh, as d'Anville ſuppoſes, or whether it was a continuation of the grand canal Niebuhr deſcribes, is a problem ſtill to be reſolved. I am myſelf perſuaded that it was a canal, and not the natural courſe of the river; for though Nahar[396] does ſignify a river, its ſenſe in this country is uſually reſtrained to works of art; thus the great canal is diſtinguiſhed, which joined the Euphrates and Tigris in Meſopotamia, called Nah'r Malcha, the Royal Canal; and a great number of others which branch out of the Euphrates on both ſides. To what degree this ſtream was choked in the age of Pliny or Arrian, is not eaſy to aſcertain; it might only have ceaſed to be navigable; for that it continued to convey water to Old Baſra, as late as the beginning of the Mahometan æra, is evident; as that place was ſtill inhabited, and ſtill a city. When the ſupply failed, the deſert was no longer habitable, and another Baſra roſe on the banks of the Schat-el-Arab, the foundation of this new city is attributed to

[394] Niebuhr, vol. ii. p. 181.

[395] Tavernier confounds Zobeir, or Old Baſra, with Teredon, and mentions a canal to it in his time, which is either the Oboleh of d'Anville, or the canal of New Baſra continued. The ſame canal is mentioned by Texeira.

[396] I ſay *uſually* reſtrained; becauſe Nahar is applied to the Euphrates itſelf, in Joſhua, i. 4. and Gen. xv. 18.

Omar, the ſecond khalif in the fourteeenth year of the Mahometan æra [397].

From the reſpect due to Mr. d'Anville, this ſubject has been treated at large, but the real object is to illuſtrate the Khore Abdillah, which is intimately connected with the courſe of Nearchus, and the two lakes above, which concern the voyage of Alexander on the Euphrates, down to Pallacopas; and I muſt now requeſt the reader to take a view of that tongue of land between the Khore Abdillah, and the Schat-el-Arab, called the Daûaſir, the lower part of which I muſt ſink under water, to find the lake Nearchus ſailed through in his return to the Paſitigris.

Nearchus, according to the journal, anchored at Diridotis in the mouth of the Euphrates, the Teredon [398] of other authors; that is, at the entrance of the Khore Abdillah, which they conſider as the Euphrates. From hence he returned back, acroſs a lake into the Paſitigris, to a town called Aginis. The length of this lake is thirty-ſeven miles, according to d'Anville; but this will be conſidered hereafter. I now obſerve that the Daûaſir muſt be curtailed, or at leaſt carried back ſo far as to give the waters the appearance of a lake rather than a river; and for this defalcation we ſhall find abundant evidence in the account of later writers. Theſe proofs I reſerve till Nearchus arrives at the ſpot; but I muſt now examine the Tigris and the ſtreams of Suſiana inland.

397 Gol. ad Alf. p. 120.

398 Ἐυφρήτης
Ἀντὴν ἠελίοιο μέσην Βαβυλῶνα περήσα,
Περσίδος εἰς ἁλὸς οἶδμα θοὴν ἀπερεύγεται ἄχνην
Υστατίῃς προχοῇσι Τερηδόνος ἐγγὺς ὁδεύων.
Dionyſ. Per. 980.

The

The TIGRIS and PASITIGRIS Inland.

THE name given to the Tigris by Oriental authors is Degela [399]; which Bochart [400] informs us they would write almoſt indifferently Degel, or Deger; and from hence ſprung the Greek Teger, or Tigris [401], by their uſual aſſimilation of ſound to ſenſe. Al-Edriſi does not change this title upon the junction of the two rivers at Khorna, but makes it prevail quite to the iſſue of the Schat-el-Arab into the Perſian Gulph. The breadth of this river at Baſra is near a mile, according to Niebuhr [402], but M'Cluer's chart makes it almoſt double that breadth, and, in ſome parts of its deſcent, ſtill more. It is extremely rapid [403] in its courſe, particularly when the waters come down ſwelling from Armenia; and the tide, which riſes about nine feet, prevails [404] conſiderably above Khorna. The junction of this river, by means of the Haffar canal, with the Eulæus, I have noticed, and d'Anville ſuppoſes the Aphle of Pliny to be a correſpondent title, which is highly dubious; for Pliny finds the Chaldean lake higher up, and contracts the ſtream again into a channel before it reaches the ſea; conſequently, if his Aphle is Haffar, it muſt be at the lower end of the lake inſtead of the upper; but if we are not inſtructed by his poſition, we may be by his uſage of a name; and that obligation we owe him alſo for preſerving

[399] Didsjile. Niebuhr.

[400] And, from him, Cellarius.

[401] They knew that Tigris, or its root, ſignified an arrow; but as they had got a Lycus, or *wolf*, higher up, they were ſome of them not diſpleaſed to find a *Tiger* in this ſtream.

[402] Capper ſtates it at a mile and a quarter.

[403] Pietro della Vallé does not eſteem it ſo rapid as the Euphrates.

[404] According to Niebuhr, much higher in the Euphrates than the Tigris, which ſeems extraordinary, as the Euphrates ought to have the higher level, for all the irrigations are derived from the Euphrates, and none from the Tigris, by Arrian's account.

Diglito

Diglito as an appellation of the Tigris. This canal of the Haffar, Arrian aſſerts, is artificial, and ſuch the natives eſteem it at this day, as appears by its title Kallá-el-Haffâr[405], *the Haffar cut*. At the point where this cut leaves the Schat-el-Arab, about eight-and-twenty miles below Baſra, d'Anville makes Nearchus enter the Paſitigris, but Arrian knows nothing of a Paſitigris equivalent to the Schat-el-Arab, which is the Paſitigris of Pliny[406]. Strabo mentions that ſome had applied this term in the ſame way as Pliny, to the union of *all* the ſtreams, but he does not countenance this opinion himſelf[407]. This is a ſource of great error, and aroſe from the Greeks aſſimilating all ſounds to their own language, and thinking to find a Perſian term explained by an etymology of their own, in which they interpreted it *all*: but Paſi-Tigris is compounded like Paſa-Gardæ, and Paſa, Phaſa, Pheſa, or Beſa[408], as Golius informs us, ſignifies north-eaſt. If this is a derivation we may rely on, Paſi-Tigris is the north-eaſtern Tigris, the channel or ſource from that quarter. Such it is in reſpect to the Schat-el-Arab, as will appear hereafter; but Arrian's Paſitigris is the Karûn, while the Paſi-tigris of other authors is the Schat-el-Arab[409]. This variation has led Salmaſius into a miſtake, unworthy of his erudition; for he finds a Paſitigris inland, in the neighbourhood of Suſa, and not knowing how to account for it, attributes this title to the Aroſis, and gives two rivers of the ſame name, as boundaries of Suſiana, though it has but one, and that no boundary, but central. Cellarius[410] certainly ſaw a difficulty in acceding to this opinion, and

[405] Herodotus, lib. vi. p. 447. mentions Ampe as the place where the Tigris falls into the gulph. Whether this has any relation to Aphle, Abadan, or Haffar, may well be doubted.

[406] Euphrates non niſi Paſitigri defertur in mare. Lib. vi.

[407] Strabo, p. 718.

[408] B and V in Perſic are equivalent.

Beſa dicitur quod nomen aliâs, hiſce Boream notat, ventum ibidem gratiſſimum. Gol. ad Alfrag. p. 114.

[409] See Indic. Hiſt. p. 357. Lib. vii. p. 282.

[410] See vol. ii. p. 484.

yet has not ventured to depart from it. D'Anville[411] has ſanctified this error by his ſuffrage.

An attentive review of the paſſages which give riſe to this opinion will reconcile all the hiſtorians to one another, and to truth. Let us firſt conſider the Eulæus in its ſource. Geographers are generally agreed that the Choaſpes and Eulæus are the ſame. It is probable they are; but it is probable alſo they are from two ſources[412], united either at or above Suſa, which paſs cloſe to the city in one ſtream, on its weſtern ſide. Daniel[413] mentions his being at the *gate* of Shuſhan on the Uhlai, or Eulæus, where the expreſſion is Oubal[414] Ulai, which the LXX and Jerom tranſlate, at *the gate of Ulai;* but the letters are Aubal Aulai, and Aub-al-Aulai is the *Aub*[415], or river, of Aulai, Eulai-us. I produce this as a teſtimony that the Eulæus was cloſe to Suſa, but the Paſitigris was at ſome diſtance to the eaſt. On this Eulæus, Alexander embarked in his deſcent to the ſea; on this river weſt, Timour encamped in his march from Dez-foul[416], in view of the city; and

[411] Oroatis. Quint-Curce décrit ce fleuve ſous le nom de Paſitigris. Mem. p. 166.

[412] Otter brings the Eulæus from Kiouhi-Zerd, Khoo-Zerd, the green mountain. It is the ſame which, I apprehend, Al-Edriſi calls Adervan: and as he ſays this mountain, or this part of the range, is thirty miles north of Suſa, here is conſequently a length of courſe ſufficient to render this river navigable. Otter, vol. ii. p. 54.

[413] Cap. viii. 2.

[414] עַל־אוּבַל אוּלָי.

[415] So, in India, Gen-Aub is one method of writing Chen-ab.

[416] Dez-Phoul, the bridge of Dez, or Dedsj, I conclude, was erected on the ſtream that Otter calls the river of Dechet-abad [the city of Dechet, or Dedsj]. This bridge, he ſays, was built to raiſe the water a mile high! in order to furniſh Tuſter. This account is too Oriental; but it proves at leaſt the connexion of the ſtream at Dez with the ſtream at Toſtar, and confirms the opinion, that one is the Eulæus and the other Choaſpes, uniting at Toſtar. The bridge at Haviza was, in the ſame manner, both bridge and dyke. Otter, vol. ii. p. 50. But Otter evidently does not underſtand his authorities. He makes Ehv-az and Haviza two diſtinct places; and this bridge he carries both over the river Dechet-abad and Abi-deſek, ſee p. 50. and p. 54. Now Dechet-abad is the city of Dechet, and Abi-deſek is the river of Deſek; and Deſek and Dechet are both Dez, or Dedsj.

Dez-

and if I interpret my author right, this river is the Ab-zal, which, according to d'Anville, takes its courſe weſt, and falls into the Tigris, juſt below Khorna [417]; but with Cheref-eddin it is conſtantly the river of Suſa [418]; and on his authority there is reaſon to conclude that this is one ſource of the Eulæus, and comes into that river cloſe to Suſa, conferring its name at the ſame time it contributes its waters; and that the river it joins, is, in its ſource, the Kho-aſpes. Kho-aſpes, according to Mr. d'Anville, ſignifies the *Mountain of the Horſe;* which name the river takes from paſſing under a mountain ſo called; but I interpret Kho-aſpes by Kho-ab, the mountain ſtream; and I find the river on which Timour encamped in view of the city is called [419]Tchar-Danké; Danké, as being common to ſeveral other ſtreams, ſeems an adjunct

Dez-Phoul* is a celebrated bridge, twenty miles or more weſt of Suſa, conſtructed on the Ab-Zal by Sapor Zulectaf, who is to the Perſians the ſame as Solomon† to the Jews, the author of all their great works; it is built on twenty-eight‡ arches, each accompanied§ with a ſmaller.

[417] See *infra*. By communication with the Gyndes above Khorna, by another cut below it.

[418] By a reference to Otter, vol. ii. p. 54. it will be equally dubious; but there is ſtill proof, that the communication is open one way to the gulph, and the other to the Schat el-Arab.

[419] I have met with another ſenſe of Tchar in Ludolfus or Bruce, but cannot now recover it. Is it not the Hebrew צַר, *Tſar*, a rock?

* Phoul, or Poule, is a bridge conſtantly in the writings of Le Bruyn and Thevenot.

† Sapor Zulectaf is the Sapor of the native Perſian dynaſty reſtored by Ardeſhir, or Artaxerxes, anno 228; which dynaſty continued above 400 years, and which the Perſians reverence more than any other, as re-eſtabliſhing their power after the uſurpation of Alexander, the Seleucidæ and the Parthian race. It is much to be queſtioned if they have any authentic annals prior to this family. Ardeſhir, Kobad, Sapor, Darab, occur in this liſt, who give name to the four diſtricts of Perſis, and Hormiſdas to a fifth in Karmania. Only it is to be obſerved, that Harmozon and Armozcia are names prior to the whole race.

‡ There is another of theſe bridges at Haviza. They ſerve as dams, bridges, and roads at the ſame time; and there is a third on twenty boats, at Aſker Mocram, Aſkier Mukierrem. See Otter, vol. ii. p. 52. All prove the great breadth of the rivers, at no great diſtance from their leaving the mountains.

§ Cheref-eddin, vol. ii. p. 170.

like Ab, and Roud; and Tchar is Dsjar, or Dâhr, a *mountain;* I conceive, therefore, that Tchar-Danké and Kho-aſpes are ſynonymous, and both ſignify the mountain ſtream. If it were certain that the Ab-Zal of Cheref-eddin comes to Suſa, as he aſſerts, I ſhould conſider this proof as deciſive.

Upon Timour's departure from Suſa on the ſecond day, he paſſed the river Dou-danké, and on the *fourth* another ſtream called Couroucan-kendé; in theſe two ſtreams I find the Kopratas and Paſitigris[420] of Diodorus, who reckons them as the two rivers immediately eaſt from the Eulæus; and in one place ſays, the Paſitigris[421] was *four* days' march from that river. Dou-danké I am not able to interpret, but Courou-Khan-Kendé[422] is the river of Khan Koorus, or Cyrus[423], as we write it. This is the river Cyrus[424] of the ancient geographers, ſo often mentioned with the Eulæus and Khoaſpes, and ſometimes confounded with them.

[420] Diodorus calls it the Tigris in every inſtance but one.

[421] Lib. xix.

[422] Kendé, and Denké or Danké, I conclude are the ſame word, each by a different proceſs, from Dsjienk, a river. See *ſupra*, Talmena. Otter, in enumerating the rivers of Mekran, vol. i. 408. gives them all the adjunct Kienk, or Chienk; which form paſſes into Denké, Danké, and Tanké, a ſtream noticed in that province by all the geographers; while the Kand-riakes of Ptolemy preſerves the other form, Kendé, or Kandé. I will not deny what Mr. d'Anville aſſerts, that Kand is an adjunct expreſſing a fortreſs, as Samar-kand, Kand-ahar, Mara-kanda; but I ſhould look to the river in all thoſe ſites. For the paſſing of Chienk into Dienk I appeal to Ptolemy, who writes Jumna, Diamuna, p. 170.

[423] Always Kor by the Orientals, like the Κορος of Dionyſius.

[424] Χωρὶς μὲν ΚΟΡΟΣ ἐστὶ μέγας, χωρὶς δὲ Χόασπις
Ἕλκων Ινδὸν ὕδωρ παρά τε ῥείων χθόνα Σοῦσων.
Dionyſ. Per. 1073.

Salmaſius reads Μηδὸν ὕδωρ for Ινδὸν; and it is remarkable that Ptolemy gives two ſources to the Eulæus, *i. e.* Khoaſpes, one within the mountains of Louriſtan, and one beyond them, in Media, with no leſs than three degrees of latitude difference. This is what is meant by Dionyſius, that the original ſpring of Khoaſpes is beyond the mountains, for which he uſes Ινδὸν Ὕδωρ (if it is his reading) very improperly, and this has an alluſion to the river paſſing under the mountain Kho-aſp. Cellarius uſes this paſſage to prove that the Korus and Khoaſpes are different rivers, but they are only different ſources of one river, which joins the Eulæus.

I ſhall

I ſhall now take the paſſages adduced by Salmaſius[425], and ſhew that they all apply to the Paſitigris, as a ſource joining the Eulæus, and cannot be applied to the Aroſis. Diodorus[426], in the march of Alexander from Suſa to Perſepolis, places the [Paſi-] Tigris at the diſtance of four days' march from Suſa. Q. Curtius, who evidently follows the ſame authorities, gives us almoſt a tranſlation of this paſſage, and agrees in the diſtance; both unite in deriving this ſtream from the mountains of the Uxii, both correſpond with Chereffeddin's diſtance of the Koorus, and with the progreſs of Timour when he proceeded to attack the Aſciacs[427], who are the Uxii that Alexander invaded by the ſame identical courſe; but Diodorus in another paſſage[428], where he gives an account of the war between Antigonus and Eumenes, mentions this [Paſi-] Tigris as only one day's diſtance from Suſa; which Cellarius explains, by ſuppoſing that an army without incumbrance, or a traveller, might paſs in one day, what took up four days for a royal army, with all its baggage and attendants. The truth is, Diodorus followed his authorities without noticing their diſcordance. Strabo's teſtimony agrees with Diodorus in naming the two rivers immediately eaſt of the Khoaſpes[429], Kopratas, and Paſitigris, and he every where marks the navigation of Nearchus up the ſtream by the title of Paſitigris; he adds, likewiſe, a manifeſt diſtinction between the Paſitigris and Aroſis[430], by ſtating that they are two thouſand ſtadia a-part; by which he means, at their iſſue into the gulph.

[425] Plin. Exer. p. 701.

[426] Lib. xvii. vol. ii. p. 211. Ed. Weſſel.

[427] A an U are interchanged in the Perſic. Uſcines approaches nearer to Uxii.

[428] Lib. xix. vol. ii. p. 330. Ed. Weſſ.

[429] Diodorus calls it Eulæus; a proof that Eulæus and Khoaſpes, at Suſa, are the united ſtream, and that both are weſt of Suſa.

[430] Strabo writes Oroatis.

Let

Let us next advert to Arrian. After the battle of Arbela, he brings Alexander firſt to Babylon, and from thence, after a march of twenty days, to Suſa. From Suſa, he conducts him acroſs the Paſitigris[431], in his way to enter the country of the Uxii. This progreſs is in perfect correſpondence with Cheref-eddin's march of Timour; and this paſſage is parallel to thoſe of Diodorus and Q. Curtius already produced, except that the Kopratas of Diodorus and Strabo is omitted, which, as it is a ſtream of leſs notoriety, might naturally happen. At this Paſitigris, we find Alexander again upon his return from the Eaſt, in his route from Perſepolis to Suſa; he had thrown a bridge of boats over it, or poſſibly ſuch a bridge was the common paſſage of travellers; for it lies in the direct road from Ragian, on the Aroſis, to Suſa; and theſe bridges are the ordinary communication of the country. To this point Nearchus came up with the fleet; which the direction of the road from Ragian to Suſa will enable me to fix within a few miles, when I come to treat of this ſubject: and the paſſage over this river to arrive at the capital evidently proves its locality eaſt of Suſa, in correſpondence with Alexander's departure from it. This renders both the paſſages of Arrian conſiſtent, and reconciles his account with thoſe of Strabo, Diodorus, Q. Curtius, and Cheref-eddin. And ſo far is it impoſſible to confound this river with the Aroſis, that Cheref-eddin[432] mentions two others between this and the Aroſis—the rivers of Ram-Hermez and Fei; both which his commentator carries into the Al-Zal, or Eulæus, but d'Anville directs them to the Aroſis. With this queſtion I have no concern: but as Nearchus ſailed up the Paſi-Tigris, I am not diſpleaſed to find in Diodorus a proof that it

[431] Lib. iii. p. 128. [432] Vol. ii. p. 185.

is navigable. The Kopratas[433], he ſays, riſing in the mountains [of Louriſtan] falls into the Paſitigris[434], and the Paſitigris is impaſſable without a bridge; it is four hundred feet wide[435], and as deep as the height of an elephant; all theſe circumſtances are ſo perfectly conſiſtent with the tranſactions which are to follow, that the omiſſion of them would be inexcuſable; and if I have unravelled a geographical difficulty, in which Salmaſius, Cellarius, and d'Anville have been entangled, I have done a ſervice to the ſcience.

SUSA. SHUSHAN. TUSTER.

	Longitude				Latitude.		
	°	′	″		°	′	″
from Ferro, by Ptolemy, - -	84	0	0	—	34	15	0
from Ferro, by D'Anville, -	66	31	0				
D'Anville, by Chart: Orb. Vet. notus,	66	10	0				
Ptolemy corrected by Goſſelin, -	60	0	0				
Otter, p. 50, vol. ii. Oriental, -	86	30	0	—	31	30	0
Ibid. Etvals, - - -	74	20	0	—	31	30	0

This longitude operates ſtrongly againſt Mr. Goſſelin's ſyſtem, (and there are many ſimilar ones,) becauſe, if Ptolemy's error is always in exceſs, the error ought to increaſe in proportion to the diſtance from Alexandria; but here the error is in default, and not in exceſs.

[433] If a derivation of Ko-pratas were requiſite, I conjecture that it is to be found in Kho-Perat, or P'rat, the mountain that *limits* or *divides*: the boundary of the Uxii.

[434] This is the only paſſage where Diodorus uſes the term Paſitigris. Immediately before he names it Tigris. Lib. xix. p. 331. vol. ii.

[435] Τεσσάρων πλέθρων. See Salm. Pl. Ex. p. 581.

Suſa

Suſa is the Shuſhan[436] of Daniel, the Shuſter, or Toſtar, of the Oriental writers, and Suſiana is their Chuſiſtan[437], the country of Chuſis, or Suſis, more commonly written Koureſtan and Choreſtan. This appellation is now almoſt obſolete in the Eaſt, for in Perſis and at Baſra it is ſtyled Ahwaz, or Havlza, from a town now become the capital. Suſa is ſaid by the Oriental writers to be the firſt city founded after the flood by a prince called Huſheng[438], who is the grandſon of Caiumaras, the firſt name in their mythology. The Greeks call the founder Memnon, ſon of Tithonus, which amounts nearly to the ſame, implying that it exiſted before there was any real hiſtory to appeal to. Its name is ſaid to ſignify a lilly, from the abundance of that flower in the neighbourhood; but I cannot help noticing that Hóo-chenk[439], the founder, is related to Tchar-danké, meaning the Mountain River; and Kou-reſtan, Kho-reſtan, and Khu-ſiſtan, all relate to a *country*

[436] The Greeks have no SH or CH, as it is uſed in our pronunciation of *church*, and conſequently Suſa, Suſiana, was written by them for Shuſhan. By a change ſimilar to one in our own language, *Church, Kirk:* Chouſiſtan becomes Khouſiſtan.

[437] Khouziſtan, ſo called from the Khouz, a nation which inhabited it. Otter, vol. ii. 49. But Khouz ſignifies mountains, or mountaineers; and Suſii, Kiſſii, and Koſſæi are no doubt originally the ſame. Strabo, p. 728. quotes Æſchylus to prove this of Suſii and Kiſſii, and the paſſage is in point:

Ὅτι τὸ Σέσων ἢ δ' Ἐκβατάνων
Καὶ τὸ παλαιὸν Κίσσιον ἔρκος
Πρελιπόντες ἔσαν. Perſ. ſub initio.

Between Kiſſii and Koſſæi the reſemblance will hardly be doubted. Theſe may be the Khouz of Otter, if he chooſes it; for the whole only goes to prove, that the inhabitants of the mountains occupied the plains, and carried their name with them over the whole province of Khouſiſtan; and thoſe who ſtill remained in the mountains were ſtill called Khouz and Koſſæi. Khuſis, in Greek letters, is Khyſis, and hence Kiſſii.

[438] Sir William Jones's Nadir Shah, p. 39.

[439] Khoo-Kienk, Tchar-Kienk, or Chienk, are ſynonymous. I conſider alſo Hucheng and Shuſhan as the ſame word identically. Hoo-chenk, however, muſt be a fabulous perſonage, for he is reputed founder of Babylon as well as Suſa. Otter, vol. ii. p. 209. There are not wanting thoſe who rather deduce Romulus from Roma, than Roma from Romulus.

ſurrounded

ſurrounded with mountains [440]. Theſe mountains, on the north of this province, throw down rivers from almoſt every boſom of the range; and the junction of theſe, cauſes all the confuſion of names already noticed. Many of them ſeem to be ſtreams of importance in an early part of their courſe, by the bridges we find conſtructed upon them; and their capacity of navigation, by means either natural or artificial, is the diſtinguiſhing feature of the province. The nature of the country below the mountains, which is a level [441], furniſhes a convenience for this improvement; and there is a canal, called Meſercan by Al-Edriſi, which united the Eulæus with the river that paſſes by Aſkar-Mokram [442] and Haviza, and joins the Tigris a little below Khorna. Inland as this is, there is reaſon to ſuppoſe it affected by the tide, for Al-Edriſi mentions that it is more navigable at one time of the month [443] than another, and then carries veſſels of a conſiderable ſize. This canal d'Anville conducts into

[440] In aſſerting this, I always ſuppoſe that Suſis and Suſiana are ſoftened forms of Khuſiſtan, in which Koo, or mountain, is the root. But if they are from su or soo, that word means *water* or *river*, as Kara-Sou, the Black River, &c. &c. The name is Khoreſtan, Khozeſtan, Cuziſtan, and Curiſtan, for the Arabic ر without a point is r, with a point ز is z; ſo that the confuſion in orthography is Oriental. See a very judicious diſcuſſion of theſe difficulties in a note by the Engliſh tranſlator of Renaudot's account of two Arabian travellers in the ninth century. Preface, p. xxxii. This work was ſearched in conſequence of the report made of it by Dr. Campbell in his extract inſerted in Harris's Voyages, and hopes were conceived that ſomething might have been found relative to the Mekran and the Indus: but it appears that the Arabs, in the ninth century, followed the route marked out by Hippalus; that is, they came down the Gulph of Perſia from Siraf to Maſcat, and then ſtood over to the coaſt of Malabar with the monſoon. This is the general courſe at the preſent hour from the gulph to the coaſt, and almoſt conſtantly from the coaſt to the gulph.

[441] Suſa itſelf ſeems to be on an eminence.

[442] Aſkier Mukierrem, ten leagues from Ehwaz, eight from Tuſter. Otter, vol. ii. p. 52.

[443] Et vero cum aqua in incremento eſt, quod evenit *initio menſis*, naves illic tranſeunt; cùm autem in decremento, tranſire ne quaquam poſſunt. Nub. Geog. p. 123. He adds in another place: Grandibus ſulcatur navigiis.

the river which he calls the Ab-Zal, or, more ſtrangely, the Moſæus. The Ab-Zal he unites with the Gyndes, and ſo conveys it into the Tigris above Khorna, while he opens another communication with a ſtream he calls Sahaab, or Soweib, which comes into the Tigris below Khorna. This is the mouth[444] of Niebuhr's Su-ab, which he calls the port of Ahwaz[445], or Haviza, the modern capital; and it ſeems to maintain its ancient title, as Su-ab is the river of Su[446], or Suſiana. It may not now be navigable to Toſtar, for Toſtar is a village; although there cannot be a doubt but that it is the original iſſue of the communication formed by the Meſercan; and I have great reaſon to ſuppoſe that there was a ſimilar union of the Eulæus eaſtward with the Aroſis, and that this is the ground of the aſſertion common to Strabo, Al-Edriſi, and Cheref-eddin; that all the rivers of Suſiana communicate with the Tigris. That Suſiana was a favoured province under the early dynaſties we have ſufficient evidence in the fortification of Suſa, and in finding that it was the principal treaſury of the empire: out of this, Alexander paid the debts of his army at the expence of twenty thouſand talents, celebrated the nuptial feaſt of the Macedonian officers with their Perſian brides, and rewarded the ſervices of all that had a particular claim to diſtinction; out of this, he made the donation to the veterans he diſcharged at Opis, under-

[444] In the collection of voyages by Melchiſedeck Thevenot, (Paris 1663,) a map of the territory of Baſra is inſerted, from the authority of a native, intended to ſhew the numbers and ſituation of the Sabæans, or Chriſtians of St. John. This map, which is without proportion of any kind, gives the relative ſituation of the rivers and places here mentioned, in perfect conformity to what I had previouſly collected from other authors. This conformity gave me no little ſatisfaction. The only difference is, it places Howeiza (Haviza) on the upper ſtream of d'Anville, rather than on the Suab of Niebuhr, which is written Soweib; but Haviza is connected with both. See Thevenot, in fine Perſepolis, vol. i. p. 24.

[445] He ſeems to make them two towns.

[446] Another mountain river.

took

took the ſupport of all the children born to his followers in Aſia, and found ſupplies for upwards of fifty[447] thouſand native troops raiſed in Perſia; and yet this treaſure was not exhauſted at the time of his death, for the war between Antigonus and Eumenes was cauſed by a contention for this capital, which was ſtill the richeſt in the empire. We are not, however, to ſuppoſe that this accumulation aroſe from the revenue of a ſingle province, though the province itſelf was productive above all others. Strabo ſays, that the return of the crop was an hundred or even two hundred fold. Cotton, ſugar[448], dates, rice, and every grain of the fineſt ſpecies are enumerated amongſt its natural productions; damaſked ſteel, ſilk, cotton[449], linens, and cloth of gold, amongſt its manufactures. Such was Suſiana in the early ages, and ſuch it continued to the time of Sapor, and almoſt to the diſſolution of the empire by the Agwhans. It is now a prey to every Arab invader, haraſſed by the Turkiſh arms from Baſra on the weſt, and by the Perſians from Schiraz on the eaſt: a ſettled deſpotiſm protected the provinces it oppreſſed; the tranſient uſurpations of the preſent day raviſh not only the produce, but deſtroy the ſtock.

If I have dwelt longer upon the deſcription of this province than the following ſhort narrative of Nearchus's tranſactions may require, thoſe who eſteem geography as a ſcience will pardon me. One object of my work is to elucidate ancient geography, and there is no portion of it more involved by erudition than this under contemplation. If I have made this conſiſtent, and rendered it applicable to the voyage

[447] Thirty thouſand came out of Perſis only, under Peuceſtas.

[448] See Otter, vol. ii. p. 50. Who ſays the country is hot in the extreme, and unhealthy to foreigners. The natives are tawny; baſanés.

[449] Linteum virgatum Corcubæum, ſtriped linen of Corcub, is mentioned by Al-Edriſi, p. 123. Corcub is upon the Gyndes. See Otter, vol. ii. p. 51.

I have undertaken to comment, I ſhall not eaſily recede from the ground I have taken by reference to ancient authorities, but appeal to thoſe who may viſit this country hereafter. Of that, indeed, there is little hope; for what merchant, what traveller, unleſs he be a BRUCE, will jeopardy his life to reſolve queſtions of curioſity?

PASSAGE of NEARCHUS from the AROSIS to SUSA.

WE left Nearchus at anchor in the mouth of the Aroſis[450], preparing to enter upon the navigation along the coaſt of Suſiana; a courſe which, he informs us, he conſidered as attended with the greateſt hazard and difficulty. Three ſhoals have been already noticed; one between the Aroſis and Kataderbis, called Barcan; a ſecond between Kataderbis and Khore Mooſa[451], called Karabah[452]; and a third between Khore Mooſa and the Khore Abdillah, named Ali-Meidan. Theſe three ſhoals give exactly the three days' courſe of the fleet along the coaſt of the Delta, which, without a previous information of this kind, muſt have been in ſome degree unintelligible.

The fleet left the Aroſis on the ſixth of February, after taking on board a ſupply of water for five days, as the pilots informed them they were not certain of procuring any, while they were croſſing the mouths of the ſtreams which divide the Delta[453]; for the coaſt

[450] Oroatis, Tab, or Endian.

[451] Query, Whether Khore Waſtah?

[452] See *ſupra*, and M'Cluer, p. 30.

"When the pilot firſt makes the *banks*, "they are called Karabah on the Eaſt, and "towards the Weſt Ali-Meidan."

[453] χώρην . . . ῥηχίῃσιν ἐπὶ μέγα ἐς τὸν πόντον ἐπέχουσαν. So I read with Gronovius, ἐπέχουσαν for ἐσέχουσαν; and I now advert to ῥηχίῃσιν for the laſt time; which the tranſlation gives, as uſual, vadoſum ac *ſcopuloſum*;—on a coaſt where a ſtone is not to be found. ἐπὶ μέγα ἐς τὸν πόντον ἐπέχουσαν, expreſſes the breadth of the Ali-Meidan, which extends out fifteen or ſixteen miles in the wideſt part.

was

was low, as they ſaid, and the courſe along it in no great depth of water, on account of ſhoals which extended far out into the ſea. This circumſtance would conſequently oblige them to ſtand off; and, when they came to an anchor, to anchor at a great diſtance[454] from ſhore. The firſt day's courſe, indeed, partook not of theſe dangers, for the ſhoal Barcan[455], between the Aroſis and Kataderbis, is not of ſo great extent from the coaſt as thoſe that ſucceed on the weſt, and the mouth of the river is ſufficiently open, even in its appearance at the preſent day[456]. The ſhoal, however, ſeems to be noticed by the expreſſion of Arrian upon the concluſion of the courſe; for he ſays, after a paſſage of about thirty miles they came to anchor at the mouth of a lake[457], rather than an harbour, where there was abundance of fiſh. This may be conſidered as marking the nature of a ſhoaly coaſt, but the point is not material to inſiſt on. The place was called Kataderbis, and an iſland which lay at the mouth, Margaſtana. In theſe two words there ſeems an evident alluſion to an iſland ſtill called Deree, and a tract called Dorgheſtan; but of the Bender Madjour which d'Anville, from the Turkiſh Geographer, allots to this ſtation, I find no traces in any Engliſh chart. One-and-thirty miles, meaſured upon M'Cluer's chart, brings Nearchus to an anchor between the two iſlands Deree and Dereebouna, and one-and-thirty Engliſh miles end between Dereebouna and the main. In either poſition, Nearchus might have but one iſland in contemplation, and conſequently have no cauſe to mention

KATADERBIS LAKE. MARGASTANA ISLAND. February 6. One hundred and twenty-eighth day.

[454] See the note of Gronovius in loco, where he ſhews that the tranſlators were as bad interpreters as they were ſeamen.

[455] The Tenagos Arenoſum of Ptolemy is the ſhoal Barcan in this very poſition between the Eulæus and the Aroſis.

[456] See M'Cluer's chart, three fathom on the bar.

[457] ἐπὶ στόματι λίμνης ἰχθυώδους.

more. Their modern names are ſuch as they have from the pilots; but, however applied, certainly relate to the inland Dera of Ptolemy, which gives name to the eaſtern channel of the Eulæus, evident in Deurak, ſtill exiſting, and in the tract Dorgheſtan, allied, if I may vary the orthography, to the Morgheſtan [458] of Arrian.

The river Dorack, I have already marked as the eaſtern branch of the Eulæus ſeparating from the Karûn channel inland, falling in neareſt to the Tab, or Endian, and embracing, not only one iſland, but ſeveral in its channel. Upon a review of Ptolemy at this place, obſerving that he mentions the mouth of the Eulæus immediately next to the Aroſis, and has the Moſæus only, without noticing the other channels between the Eulæus and the Tigris, I am more confirmed in my opinion, that his Moſæus is the branch we now call the Karûn, with Khore Mooſa at its iſſue; and that the Meſene comprehends, not only the ſtrip between the Bamiſhere and Coſſiſa-Bony, but perhaps as far as the Karûn alſo.

The two iſlands at the mouth of the Dorack are not accurately named, for Bouna is apparently a channel rather than an iſland, and ſeems to correſpond in contradiſtinction to the Coſſiſa-Bony, either as ſuch, or as a boundary and termination of the Delta. The Oriental geographers place a fort here, called Medhi and Modhi [459], perhaps in the ſituation of Moſhure, in Mr. Dalrymple's chart; and it is not impoſſible that ſomewhere in the bay, formed by the mouths of the Dorack, d'Anville's Bender Madjour may be diſcovered; it cannot be where the map of his Memoir places it; for

[458] I do not ſearch for an error in the initial letter; for I believe the change to ariſe from ſome Oriental orthography, which I cannot diſcover.

[459] Hiſn-Modhi, Arx-Modhi, Hiſn-Arx, Caſtellum. Gol. ad Alfrag. p. 248. Xin. idem.

the

the coaſt there is covered with the ſhoal Barcan, and d'Anville's three [460] maps are all particularly incorrect on this part of the coaſt. I make the leſs ſcruple of aſſerting this, becauſe M'Cluer has not only laid down this coaſt totally different, but all our Engliſh charts; theſe have at leaſt the authority of the native pilots, and M'Cluer, I conclude, his own obſervation; for he has added the ſoundings, and that he would hardly have ventured to do without ſufficient authority, on a coaſt where the land cannot be approached near enough to be ſeen, and where the courſe muſt principally, if not wholly, be directed by ſoundings.

SHOAL. First day's courſe. February 7. One hundred and twenty-ninth day.

I am now to conduct the fleet acroſs the ſhoals which fringe the Delta; and in this courſe I diſcover the Karabah and the Ali-Meidan as manifeſtly as in a modern map. On the firſt day they ſailed as ſoon as it was light; and, forming a line by ſingle ſhips, each followed in order, without deviating to the right or left, through a channel marked out with ſtakes in the ſame manner as the paſſage [461] between Leukas and Akarnania, in Greece: but, ſays Arrian, at Leukas there is a firm ſand, and if a veſſel grounds ſhe is eaſily got off again; but in this paſſage it was a deep mud on both ſides, ſo that a ſtaff could find neither ſupport or reſiſtance; or if, when the veſſel grounded, the people got overboard to eaſe her off, they found no footing, but ſunk in higher than the waiſt. Now it is true that a muddy ſhore, and the ſtaking out a dangerous paſſage, is not peculiarly characteriſtic of one coaſt more than another, for the practice is ſufficiently general; but it is very extraordinary that this

[460] Map of Aſia, firſt part. Tigris and Euphrates. Memoir.

[461] And many other paſſages in different parts of the world. Lymington river in Hampſhire. And in the year 1786, I ſaw the Elephant man of war juſt launched at Buſſleton, brought down the creek marked out in the ſame manner.

circumſtance

circumſtance ſhould be ſo decidedly noticed on this part of the coaſt by Arrian, Ptolemy, Pliny, Marcian, Al-Edriſi, and Thevenot, with little variation. There is a bay between[462] the Moſæus[463] and the Eulæus called Sinus[464] Pelodes in Ptolemy, and Sinus Steloas in Marcian. Salmaſius[465] and Hudſon will not allow Marcian to retain his own reading, but reduce him to the ſtandard of Ptolemy. The truth is, however, that he has preſerved one feature and Ptolemy another, both belonging to the ſame face of the coaſt; for theſe two terms tranſlated are nothing more than *Muddy* Bay and *Stake* Bay; proving that Marcian is not a mere copyiſt of Ptolemy, but ſometimes alſo a commentator. Pliny bears teſtimony to the former circumſtance, and Thevenot[466] mentions the entrance of the Karûn as ſtill marked by a ſtake of palm wood, when he arrived at the mouth. Let us now conſider the nature of the Karabah, as it has been already noticed, and we ſhall diſcover the cauſe that gives riſe to this circumſtance. The term of *broken ground*[467] applied to this ſhoal ariſes from the irregularity of the ſoundings and overfalls on it, and the fiction of a city ſunk here is noticed by ſeveral authors. The ſoundings, according to M'Cluer, vary from twelve to ſeven and eight,—to ten, ſeven, and five fathoms. As ſoon as the modern pilot finds theſe, he keeps away weſt for the Ali-Meidan; but the courſe of Nearchus ſeems to have been acroſs this bank, and, as nearer ſhore, naturally with ſhallower water; but the inequality of the bottom as naturally offered the means of exploring a channel acroſs. This is the channel that we may conclude was marked out by the

[462] An additional proof that Ptolemy's Eulæus is the Dorack channel. His Moſæus, the Karûn.

[463] Between the Karûn and the Dorack:

[464] Στηλώαι κόλποι, Πηλώδη κόλποι. Marcian.

[465] In alterutro mendum eſſe neceſſe eſt. Sal. Plin. Ex. p. 701.

[466] In p. 16.

[467] Karabah, broken; from the Perſian root Karab, to break. Mr. Jones.

natives.

natives. An attention of this kind is perfectly conſiſtent with the commercial ſpirit of the province, and proceeds upon the ſame grounds as the navigation inland. A paſſage over or through the ſhoal is neceſſarily implied in the account of the journal; the accompliſhment of it is reconciled to reaſon by the method I have purſued, and in whatever ſtate the coaſt may now be, it can hardly afford a ground of objection to my ſtatement of what it might have been at the diſtance of ſo many centuries. Amidſt all diſadvantages of ancient navigators, they had one advantage ariſing from the little depth of water the conſtruction of their veſſels required.

Through a paſſage, then, of this ſort, Nearchus conducted his fleet thirty-ſeven miles, and then came to an anchor without being able to approach the ſhore. Here they took their repaſt on board, and gave the people ſome time for refreſhment. I have no heſitation to fix this anchorage in the Khore Waſtah, the iſſue of the Selege ſtream[468], for there the meaſure given agrees perfectly with M'Cluer, and there he ſeems to terminate the Karabah. It is a minute circumſtance, but worth noticing, that both Ptolemy and Marcian agree in making the eaſtern commencement of the bay, Pelodes, at ſome diſtance from the Eulæus, or Dorack, and their termination of it is at the Moſæus, or Karûn, which would naturally happen, as they take no notice of the intermediate channel, or Khore Waſtah.

From this anchorage the fleet weighed in the night, after allowing a ſhort reſpite from fatigue, but they had no longer a ſhoal to croſs; they ſailed in deep[469] water, ſays Arrian, manifeſtly marking

SHOAL. Second day's courſe to DIRIDOTIS. February 8. One hundred and thirtieth day.

[468] It amounts to thirty-two geographical miles, equal very nearly to thirty-ſeven miles Engliſh.

[469] κατὰ βάθος, four fathoms, would be κατὰ βάθος to a Greek *foot*.

the courſe along the border[470] of the Ali-Meidan, which every veſſel bound for the Baſra Channel ſtill purſues. They ſailed all night and the whole of the following day till paſt noon, when they finiſhed their courſe at Diridotis, a village in the mouth of the EUPHRATES.

The diſtance aſſigned for this paſſage acroſs the Ali-Meidan is nine hundred ſtadia, or upwards of fifty-ſix miles, a meaſure which is very dubious, as Nearchus informs us he was able to keep no regular account, and the ſtatement of the moderns is ſo various, that I prefer giving their own diſtances to fixing any determinate meaſure of my own.

	Geog. Miles.	*G. M.*
D'ANVILLE.		
Memoir[471]. Meaſure from the Karûn to Khore Abdillah,	30. add 7	— 37
Map of Aſia, firſt part,	33. add 7	— 40
Map of Tigris and Euphrates,	30. add 7	— 37
M'CLUER.		
Large Sheet from Waſtah to Khore Abdillah,	——	40
Small Sheet from Waſtah to Khore Abdillah,	——	34
DALRYMPLE.		
Anonymous Chart from Karûn to Khore Abdillah,	46	
from Waſtah to Khore Abdillah,	——	62
NIEBUHR.		
From Karûn to Khore Abdillah (dubious),	40. add 7	— 47

[470] Upon this *flat* there are ſix fathoms on the ſouthern edge, five fathoms on the middle, four at the upper end. The pilot ſeldom goes under five, or five and an half.

M'Cluer, p. 30. "When you come within "two fathoms, you are ſtill near ten miles from "ſhore," and this part is dry at low water.

[471] I have eighteen draughts to conſult, but theſe are all worth ſpecifying. Seven miles are added for the difference between the Karûn and Waſtah; but ſome of the charts make it ten.

If

If ſuch are the fluctuations of the moderns, how are we to reduce a journal of the age of Alexander? M'Cluer's ſmall ſheet is a corrected draught, and his corrections uſually promote a coincidence with Arrian; but how are we to reconcile his eſtimate with that of Mr. Dalrymple's chart? It is true that I eſteem Mr. Dalrymple's, in point of diſpoſition, as the beſt of any which I have ſeen; but I have reaſon to conſider all its meaſures as too large; this will appear more fully when I come to treat of the coaſt in general.

Diridotis, or Terédon, is the termination of the voyage by ſea, and evidently both forms mark its connexion with the Diglito of Pliny, and the Tigris of the Greeks, as they are both related to the Oriental Degela, or Didsjile[472]. Diglidoth[473], intimating a town ſituated near the Degela, will give the two forms of Diridotis and Terédon, with the uſual interchange between R and L, which appears in many other inſtances. This place Arrian calls a village, where there was a mart eſtabliſhed for the importation of the incenſes of Arabia, and its ſituation fits it for the conveyance of them up to Meſopotamia, either by the old canal at the Khore Abdillah, or by the Schat-el-Arab to Suſiana, or Perſis; and this circumſtance has recommended it to the notice of all the ancient geographers. I have already mentioned that Ptolemy places Terédon between the two mouths of the Tigris, which evidently proves that he conſidered d'Anville's Choabedeh, as a mouth of the Tigris, and not of the Euphrates. And as I have before accounted for Pto-

[472] Niebuhr writes, D'dsjile.

[473] One reading of Diglito in the MSS. of Pliny is Diglath, equivalent to Degelah.

Pliny means by Diglito, the upper part of the Tigris—*quà tardior fluit*; and gives Tigris as a ſecond name, where the courſe is as ſwift as an *arrow*.

lemy's Sinus Meſanius, the whole of ancient geography is thus rendered conſiſtent with itſelf, and with our modern charts.

It will ſeem extraordinary that, when the courſe of Nearchus lay up the Tigris, or Schat-el-Arab, he ſhould paſs the mouth of that channel, and bring his fleet to an anchor in the Khore Abdillah, which he calls the mouth of the Euphrates. This, according to Pliny's account, was juſt going twenty-five miles out of his way, and cauſing a neceſſity of re-meaſuring his courſe back again the ſame diſtance. Pliny's eſtimate, computed by d'Anville's method, is reduced to twelve miles and an half; and the real diſtance, taken largely, may be about ten. If, therefore, it is aſked why this happened, the anſwer will exhibit one of thoſe minute coincidences which nothing but truth could ſuggeſt. It is a circumſtance connected with the nature of the navigation, and it continues to be the practice of the pilots to the preſent hour, for thus M'Cluer deſcribes the courſe:

.... "After[474] theſe ſoundings in Khore Gufgah, you will "quickly ſhoalen to four one-half fathoms, and this the pilot calls "Mucan[475]; and from that, three one-half or three fathoms to "Buſſorah Bar[476]. With theſe ſoundings, he ſtill ſtands acroſs [the "mouth of the Schat-el-Arab], weſt or weſt by north, till he "deepens to five fathoms in Khore Abdillah, and there he anchors "till the next flood tide; or, if he has ſufficient tide to carry him "over, he ſtands away to clear a bank between Khore Abdillah and "the Buſſorah river."

I now beg leave to notice, that the pilot on board Nearchus ſteered exactly the ſame courſe as M'Cluer's Karack pilot two

[474] M'Cluer's Memoir, p. 30.

[475] The Meſene.

[476] The bar at the mouth of the Coſſiſa-Bony, or Schat-el-Arab, as I uſe it.

thouſand

thouſand years afterwards; ſo durable is the ſtamp that Nature has ſet upon this coaſt. The reaſon of this is obvious; for the projection of the Ali-Meidan throws the veſſel off the coaſt till ſhe is oppoſite to the Khore Abdillah, and the level of the land is ſo low at the mouth of the Schat-el-Arab, that it is much ſafer for her to make land in the Khore, than to ſtand up the Schat-el-Arab at once, when the coaſt on either hand is too low to be viſible.

While Nearchus lay at anchor in this Khore, which he calls the Mouth of the Euphrates, intelligence was received that Alexander was on his march to Suſa. He determined, therefore, to return *back*[477]; and then, by purſuing his courſe up the Paſi-Tigris, to join him in the neighbourhood of the capital.

Here it is that, in my endeavour to explain the following day's courſe, I am obliged to differ totally from d'Anville, I appeal to the candour of the reader, that no captious love of oppoſition may be imputed to me, for I have too great a deference to that great geographer's opinion, ever to depart from it without ſufficient grounds.

AGINIS. February 9. One hundred and thirty-firſt day.

The paſſage is only ſix hundred ſtadia from Diridotis to Aginis. d'Anville places Aginis at Zeiné, in the Schat-el-Arab. I ſay that Nearchus never entered the Schat-el-Arab, and I place Aginis at the mouth of the Karûn, or Khore Mooſa. This is the difference between us. D'Anville's beſt argument is the ſimilarity between Aginis and Zeiné; and, when the local circumſtances are firſt fixed, I hold ſimilarity of names to be one of the beſt of proofs; but to derive the locality from the ſound, is commencing the argument at the wrong end.

477 Ἔνθεν καὶ αὐτὸς τὸ ΟΠΙΣΩ ἔπλεον, p. 357.

My

My reaſons for aſſuming a different courſe are theſe:

1ſt, Pliny's Chaldean Lake, and Arrian's Lake at the mouth of the Tigris, are not the ſame.

2dly, Arrian's Paſitigris is never the Schat-el-Arab, and in this he is ſupported by Strabo.

3dly, In the paſſage of Nearchus up the river, no notice is taken of the canal of Haffar, but only upon Alexander's courſe down to the gulph.

4thly, Nearchus is ſaid to go up the Paſitigris, Alexander is ſaid to come down the Eulæus.

5thly, Nearchus, in his courſe from Diridotis to Aginis, ſailed with Suſiana on his *left*.

1ſt, The CHALDEAN LAKE.

NEARCHUS ſailed[478] acroſs a lake into which the Tigris falls at its iſſue into the gulph; but if this lake exiſts, or ever did exiſt, it muſt have been at the mouth of the Schat-el-Arab, and could not be the ſame as Pliny's Chaldean Lake; for that commences below Cteſiphon, and ends at Aphle; and he adds afterwards, that the waters, after ſpreading in this form, are again collected into a ſtream, and in that ſhape take their courſe to the ſea. His[479] Chaldean Lake, therefore,

[478] ἀπὸ δὲ τῆς Λίμνης ἐς αὐτὸν τὸν ποταμὸν ὡς πλεῖς σάδιοι ἑξακόσιοι, ἵνα ἡ κώμη τῆς Σουσίδος ἦν καλέσιν Ἄγιν. Ar. 357.

[479] Suſa a Perſico mari abſunt CCL. M. paſſ. qua ſubiit ad eam [*ea*] claſſis Alexandri Paſitigri. Vicus ad Chaldaicum Lacum vocatur Aphle; unde Suſa navigatione LXV. M. paſſ. abſunt.

This Paſitigris is the Schat-el-Arab, and Pliny ſupports d'Anville in ſuppoſing the paſſage up that ſtream; but his Lacus Chaldaicus will not accord with d'Anville. Tigris inter Seleuciam et Cteſiphontem vectus in Lacus Chaldaicos ſe fundit. Eoſque LXX. M. paſſ. amplitudine implet. Now LXX. miles will not reach from Cteſiphon to Aphle by two hundred, and ſtill Aphle is at the lower end of this lake. See lib. vi. c. 27.

But Pliny, lib. vi. c. 23. followed a different authority. He there is giving an account of this paſſage of the fleet from the hiſtorians of Alexander, and there we find (not the Chaldean lake) but a lake at the mouth of the river. Oſtium Euphratis. Lacus quem faciunt Eulæus et Tigris juxta *Characem*, inde Tigri, Suſa. (Lege) inde *Paſi* Tigri, Suſa.

therefore, is not at the mouth of the Schat-el-Arab, but inland, and its termination at Aphle; which, if Aphle and Haffar are the ſame, is upwards of ſixty[480] miles from the mouth. This, I conceive, is the firſt ſource of d'Anville's miſtake, and Pliny's error in aſſuming Paſitigris, as the appellation of the Tigris and Euphrates united in the Schat-el-Arab, is the ground of his making the fleet go up that channel, inſtead of the Karûn, or real Paſitigris. D'Anville follows him in this aſſertion, and here is his ſecond miſtake

For, 2dly, Arrian's Paſitigris is always that ſtream which, flowing eaſt of Suſa, joins the Eulæus at ſome diſtance below that capital. I have proved this by the concurrent teſtimony of Strabo, Diodorus, Q. Curtius, and Cheref-eddin, all according with Arrian. It did not approach the city; it was a broad, deep, and navigable river: it croſſed the road from Perſis; and, after its junction with the Eulæus, the united ſtream ſeparated again, ſending off one branch eaſtward, now called the Dorack[481], and another weſtward, which is the Karûn; and, finally, its characteriſtic diſtinction is the title of *Paſi*, or *North Eaſtern* Tigris, in oppoſition to the great ſtream of that name, which is now ſtyled the Schat-el-Arab[482]. This is manifeſtly the ſyſtem of Arrian; and Strabo, in explaining the error of ſome hiſtorians who attributed this appellation to the Schat-el-Arab as the general channel which received *all* the different rivers, as manifeſtly confirms the ſyſtem of Arrian, and proves the concurrent opinion of all the authors in the age of Alexander.

[480] I meaſure to the bar of the Coſſiſa-Bony, or Baſra Channel.

[481] The Eulæus of Ptolemy.

[482] The Schat-el-Arab is always ſtyled Degela, or the Tigris, by Al-Edriſi.

3dly,

3dly, If Nearchus had gone up the Schat-el-Arab, he could have entered the Eulæus, or Paſitigris, only by the Haffar Canal; is it then not remarkable that, when at Aginis, he ſpecifies the progreſs of the following day as up the Paſitigris[483], and not up a canal? but if Nearchus had ſailed up this canal, there is much more reaſon to conclude it would have been ſpecified in a courſe he performed himſelf, (where it is not ſpecified,) than in the deſcent of Alexander, where it is mentioned, and in which he was not ſo immediately or perſonally concerned. This, conſidering the tenor of the journal, is one of the ſtrongeſt evidences which can be produced; for an artificial cut was no common object to a Greek, and a ſimilar circumſtance is preſerved at Heratemis, though the paſſage was neither explored, or made any part of the navigation. An omiſſion, it is true, is only a negative proof, but in an inſtance of this kind it muſt have conſiderable weight.

4thly, There is no inconſiſtence in mentioning Alexander's deſcent by the Eulæus, and Nearchus's aſcent by the Paſitigris, for Nearchus entered the river from the ſea where it bore this appellation in contradiſtinction to the Tigris, and Alexander embarked at Suſa, where that ſource, which paſſes the capital, is called the Eulæus. The various heads[484] of this ſtream cauſe confuſion in the interior; the various arms, as it approaches the ſea, create diſorder upon the coaſt. It is thus that the Eulæus and Choaſpes are tranſmutable, and that the Eulæus of Ptolemy is not the ſame as Arrian's at its mouth, but the Dorack. If Alexander embarked at

[483] ἐνθένδε κατὰ τὸν Παστίγριν ἄνω ἔπλεον. Arr. p. 357.

[484] En Turquie en Perſe et aux Indes une meme riviere prend le nom de toutes les villes et villages ou elle paſſe, et ainſi il eſt mal aiſé que les voyageurs s'accordent bien pour ces noms. Tavernier, lib. v. p. 733. Amſt. edit.

Suſa, the ſtream was neceſſarily the Eulæus till it joined the Paſitigris, and the name was eaſily continued after the junction. If Nearchus entered the Paſitigris, the preſervation of the ſame title in his courſe upwards, obviated ambiguity; and when he reached the junction, his progreſs up the eaſtern ſource diſtinguiſhes again the Paſitigris from the Eulæus. By the latter he would have reached Suſa, by the former he effected his junction with the army.

5thly, The expreſſion of Arrian is preciſe, when he aſſerts that Nearchus ſailed *back again* from Diridotis to Aginis, if Aginis is in the Delta on the Khore Mooſa; but it is not equally appoſite, if he returned only to the Schat-el-Arab. It appears evident that he had intended to go up the Schat by the courſe he held, but that the account he received at Diridotis informed him that the king was directing his courſe to Suſa; this intelligence carried him back to the Paſitigris, as the ſhorteſt paſſage to the capital, for ſuch it is; while the navigation up the Schat-el-Arab and through the Haffar canal was either unknown to him at that time, or not in his contemplation. But this is not all; he paſſed from Diridotis back to Aginis with Suſiana on his *left*. Could this be true, if he had ſailed up the Schat-el-Arab? Let any advocate of Mr. d'Anville inform me, if ever the tract on the weſt of the Schat-el-Arab was called Suſiana by any geographer, ancient or modern? Whether it was poſſible for Arrian to terminate that province weſt, at the Euphrates[485] inſtead of the Tigris? No. It was always ſtyled Arabia, by the concurrent teſtimony of hiſtorians and geographers, as it is to the preſent day, and it was always poſſeſſed by Arabs, whoſe influence reaches to the very walls of Baſra.

[485] The Khore Abdillah is the Euphrates of Arrian.

If, however, it can be ſuppoſed that Nearchus made his[486] Euphrates the boundary of Suſiana, the difficulty will be increaſed; for then, in ſailing up the Schat-el-Arab, the expreſſion ought to have been, that he proceeded up the Schat-el-Arab *through Suſiana*, not with Suſiana *on his left*; for, if the Tigris is the boundary, in going up it, Suſiana muſt be on the *right*.

The whole of this error originates[487] with Pliny; he knew, from the hiſtorians of Alexander, that the fleet went up the Paſitigris; but his Paſitigris is the Schat-el-Arab, and theirs is the river connected with the Eulæus. If this error had not miſled ſo great a geographer as d'Anville, all that has been ſaid would be ſuperfluous.

Theſe are my reaſons for adopting the following ſyſtem; and it will now be eaſy to conduct Nearchus from Diridotis to Aginis by the courſe which is here aſſumed. Theſe are the words of Arrian: "At Diridotis[488], intelligence was received that Alexander was ad- "vancing to Suſa; the fleet, therefore, returned back again from "Diridotis, in order to proceed up the Paſitigris, and join the "army. They ſailed accordingly on their return, with Suſiana on

[486] The Khore Abdillah.

[487] It orininates actually with thoſe Greek writers whom Strabo reproves for the ſame miſtake.

[488] Ἐνταῦθα ἀγγέλλεται Ἀλέξανδρον ἐπὶ Σοῦσα στέλλεσθαι· ἔνθεν καὶ αὐτοὶ ΤΟ ΟΠΙΣΩ ἔπλεον, ὡς κατὰ τὸν Πασιτίγριν ποταμὸν ἀναπλώσαντες συμμίξαι Ἀλεξάνδρῳ. Ἔπλεον δὲ ΤΟ ΕΜΠΑΛΙΝ ἐν ΑΡΙΣΤΕΡΑ τὴν γῆν τὴν Σουσίδα ἔχοντες· καὶ παραπλέοντες λίμνην ἐς ἣν ὁ Τίγρης ἰσβάλλει ποταμός· . . . . . ἀπὸ δὲ τῆς λίμνης ἐς αὐτὸν τὸν ποταμὸν ἀνάπλους σταδίων ἑξακοσίων ἦν· καὶ κώμη τῆς Σουσίδος ἦν καλέεται Ἄγιννις. Arr. p. 357.

To make theſe words accord with a paſſage up the Tigris, or Schat. ἐπὸ δὲ τῆς λίμνης ἐς αὐτὸν τὸν ποταμὸν muſt be rendered, from the lake UP the river; but ΕΣ cannot be ſo rendered. It is TO the river. And again—αὐτὸν τὸν ποταμὸν muſt then be a different river from that which is expreſsly declared to be their object before, κατὰ τὸν Πασιτίγριν ποταμὸν.

The refutation of any ſuch conſtruction, and the confirmation of that which I adopt, is contained in a following paſſage. That is, when the fleet proceeded the next day from Aginis: ἐνθένδε κατὰ τὸν Πασιτίγριν ἄνω ἔπλεον. From thence, [from Aginis,] they ſailed up the Paſitigris. *The river*, therefore, is the Paſitigris, and not the Tigris.

"the

" the left. The firſt part of their courſe was acroſs a lake into " which the Tigris diſembogues itſelf . . . . . ; and from this lake " to the mouth of the river [Paſitigris], the diſtance was ſix hun- " dred ſtadia: at the termination of their courſe was a village of " Suſiana, called Aginis."

In commenting on this paſſage, Mr. d'Anville commits two errors; for he calls the lake, the Chaldean Lake, which it has been proved not to be; and he then adds, that the extent of the lake is ſix hundred[489] ſtadia, though the text ſays directly the reverſe. " They " paſſed the lake, and from the lake to the river the diſtance was " ſix hundred ſtadia." He adduces the teſtimony of Strabo[490] to prove this, but Strabo does not mention the extent of the lake at all.

The exiſtence of this lake at the mouth of the Tigris, or Schat-el-Arab, muſt now be ſought for; and, if we take a view of the map, we find a tract on the weſt of that ſtream called Dauaſir by Niebuhr, the extreme point of which between the Khore Abdillah and the Schat-el-Arab we muſt ſink, to find room for this lake at the mouth of the Tigris; and that this was really under water in the age of Alexander, and roſe gradually to its preſent appearance, either by accumulation or artificial means, we have abundant evidence to prove. The very name[491], if I am not miſtaken, implies inundation; and Niebuhr ſuppoſes the whole level as high as Haſſeinad, the burial-place of Haſſan-ben-Hanefie, to have been under water, and even that it would be ſo at this day, if the inun-

[489] La traverſée de ce lac pour la flotte d'Alexandre fut de ſix cens ſtades. Mem. R1.

[490] P. 729.

[491] Kerme-ſir, the hot country; Daua-ſir, the watery country. But?

dation were not prevented by dykes. "Every where, (he ſays[492],) "canals are cut to convey water to the date grounds; and as the "water of the river is ſaturated with ſlime, the land here muſt, in "a ſucceſſion of ages, have been raiſed conſiderably to have ob-"tained its proper level." This ſuppoſition of Niebuhr's is in perfect harmony with an aſſertion[493] of Pliny's, that the inundation of the waters is no where ſo extenſive as in this part of the river. Another circumſtance is the riſing of Abadan, a town at the mouth of the Schat-el-Arab, at the extremity of the Dauaſir; for it ſeems poſſible to trace this from its emerſion; firſt, in the form of an iſland, and afterwards as part of the main occaſioned by the departure of the waters. I looked for it in two Apphadanas of Ptolemy, but the poſition of neither anſwers. Marcian[494], however, expreſſes himſelf thus: "Near this part[495] of Suſiana lies an iſland "called Apphadana[496], which ſome attribute to Arabia." This ſeems to ſhew the emerſion of land at the point of the Dauaſir, between the age of Alexander and the time of Marcian. The connexion of this iſland with the main, or rather the withdrawing of the waters which ſeparated it, ſeems to have taken place in a later period; for that it was united in the time of Al-Edriſi is evident. "Abadan, (he ſays[497],) is a ſmall fort, but ſtill in good condition,

[492] Vol. ii. p. 169. Amſt. edit.

[493] Non alio loco plus profecere aquæ terris invectæ. Plin. lib. vi. c. 27.

[494] Marc. Heracl. p. 17. Geog. Min. Hudſon.

[495] The Paſini Charax.

[496] The tranſlation reads Apphana. There is a coin in the poſſeſſion of Mr. Cracherode, and in Dr. Hunter's Muſeum, inſcribed ΕΣΓΕΔΗΝΕ, which is by ſome imputed to Aſpendus; but if it ſhould appear that the Syrian Greeks poſſeſſed the mouths of the Euphrates, this word would read ESWEDENE, not far removed from Apphadana.

[497] Eſt autem Abadan Arx parva quidem, ſed integra, ad litus maris appoſita, quæ inſervit ad obſervandos atque protegendos eos, qui ſubeant mare prædictum jacetque Abadan ab occidentali parte Degelæ [Tigris] amnis qui eo in loco maximè diffunditur ſuper terram. Al-Edriſi, p. 121.

" ſituated near the ſea, which is intended for watching and pro-
" tecting thoſe who frequent this part of the coaſt, it lies on the
" weſtern bank of the Degela [Tigris], in a part where that river
" particularly *ſpreads itſelf over the land*[498]." The ſame author adds a remarkable circumſtance, which, though not connected with the inundation, is ſo uncommonly local, that it is worth inſerting. " Six miles below Abadan lies Al-chaſciabat, which ſignifies a ſtage " raiſed upon piles in the ſea, where there is a watch kept, and " thoſe who are appointed for that ſervice repair to the ſtage in " boats, and return by the ſame conveyance." This fact is ſo connected with the navigation of the Schat-el-Arab, that whether the duty of this watch was for the purpoſe of giving ſignals, or affording pilotage; it marks ſtrongly the attention paid to the ſecurity either of the country or of the navigators, and that, no more than the lowneſs of the coaſt demanded. This ſtage ſeems evidently on the point of the ſhoal, between the Khore Abdillah and the Schat-el-Arab.

Such is the nature of the Dauaſir at its termination, and ſuch is the evidence to prove that there was a lake in the age of Nearchus[499], where there is now land; that the land had emerged in the form of an iſland in the time of Marcian; and that, before Al-Edriſi wrote, it was united to the main. This is a fact of no ſmall importance to aſcertain. As the want of a lake at preſent forms one ground of objection to the authenticity of the journal. The

[498] Tout le pais eſt ſi bas que ſans une digue qui regne le long de la mer il ſeroit ſouvent en danger d'eſtre ſubmergé. Tavernier, lib. ii. p. 243. I find nothing of this dyke in other authors, unleſs it be the dyke in the river mentioned by Niebuhr. But the paſſage concurs in the lowneſs of the land. In p. 245 he mentions the breaking of this dyke, and that then the waters came up to Baſra.

[499] Anno 326 A. C.
400 poſt Ch.
1100 poſt Ch.

name

name of Abadan ſtill exiſts at the mouth of the river, in the Tſchabde and Tſchwabde of Niebuhr [500], which he makes two villages, poſſibly out of one. M'Cluer has alſo an Abadan, but too high up the river, and on the eaſtern inſtead of the weſtern ſide.

I have been the more particular in ſtating all the circumſtances relating to this point of the Dauaſir, on account of the numerous errors attending it; and I muſt now obſerve that I am not bound by the text of Arrian to fix upon any particular extent of the lake; for he mentions only that the fleet croſſed it, and that, from the lake to the Paſitigris, the diſtance was thirty-ſeven miles and an half. The extent of it up the Tigris I am not concerned with, but I ſhould not carry it, with Niebuhr, thirty miles up to Haſſeinad; for Mr. Jones, who has paſſed frequently up the channel and down, ſeems to think, that the weſtern bank is every where too high to admit of inundation, till within eight or ten miles of the mouth; but that part, he ſays, has undoubtedly been under water, and thus does the teſtimony of a living witneſs confirm all our written evidence.

The map will now conduct us, after paſſing the lake, acroſs the Ali-Meidán, back again to the Karûn, which I conſider as the Paſitigris, and Aginis as a village at its mouth. The general depth of water on the Meidán, neareſt to the coaſt, is two fathoms at high water; and conſequently, if Nearchus ſailed upon the flood, there is ample allowance for the draught of his veſſels, which was certainly not more than nine feet, and probably leſs than ſix: and

[500] See Tab. LX. vol. ii. Amſt. edit.

here,

here, at Aginis, I make him anchor with the view of purſuing his courſe up the Karûn the ſucceeding day.

Here a greater difficulty occurs than that which I have been endeavouring to unravel; for, according to the journal, the extent of the coaſt from the Aroſis to the Paſitigris is two thouſand ſtadia, while the three days' courſe makes it two thouſand to Diridotis; and if Nearchus came back to the Karûn, as I ſtate, ſix or ſeven hundred ſtadia ought to be ſubtracted from the two thouſand. This difficulty is not leſſened by adopting Mr. d'Anville's ſyſtem, for then it muſt be added inſtead of ſubtracted, ſo that the difference is equal, either in exceſs or default: for this there is no better ſolution than what the journal itſelf affords, that Nearchus himſelf confeſſes he kept a very uncertain account in this paſſage; and I am ſorry to add, that the diſagreement of our modern charts enables me to produce nothing certain upon the ſubject. Mr. Dalrymple's anonymous chart[502] is the only one that gives thirty-ſeven miles between the Schat-el-Arab and the Karûn, agreeable to Nearchus. The others vary ſo much, that I prefer a ſtatement of the whole to any explication of my own, and I am conſtrained to take the meaſure from the Aroſis to Diridotis according to the daily courſe, rather than to the Paſitigris, as Arrian reckons, becauſe in one inſtance I have particulars ſpecified, and in the other only a general ſum. My reckoning may be reduced to Arrian's, by taking off from thirty-ſeven to forty-ſeven miles, the ſuppoſed diſtance between Diridotis and Aginis.

With much diffidence, then, I ſubmit the following ſtatement

[502] I always ſuppoſe the meaſure of this chart to be too large.

to

to the reader; for greater diſagreement, in ſo ſmall a ſpace, is hardly to be found:

	Stadia.	*Miles Eng.*
From the Aroſis to Kataderbis, -	500	
to Khore Waſtah,	600	
to Diridotis, -	900	
	2000	125

	Nautic Miles.		*Miles Eng.*
Arrian from the Aroſis to Diridotis,		——	125
D'Anville's Map of Aſia, -	105	nearly	122
D'Anville's Memoir, - -	75	——	87
M'Cluer's large ſheet, - -	80	——	93
M'Cluer's ſmall ſheet corrected, -	90	——	105
D'Apres - - -	80	——	93
Gough's chart, - -	81	——	94
Niebuhr[502], - - -	90	——	105
Dalrymple's anonymous chart, -	137	——	160
Pliny, - - -		——	265
Pliny, by another eſtimate, - -		——	250
Pliny, halved by d'Anville, - -		——	125
Marcian of Heraclea, 3430 ſtadia, -		——	214
Marcian, by Salmaſius, 1830 ſtadia, -		——	114
Ptolemy, ſix[503] degrees - -	360	——	417

Such is the fluctuation of this eſtimate, and perhaps, out of the whole liſt, M'Cluer is the only one who formed his ſtatement from

[502] Niebuhr poſſibly ſaw M'Cluer's papers at Baſra.

[503] In reality ſix one-half. Terédon, 80°. Oroatis, 86° 30′.

obſervation,

obſervation, or the account of the native pilots. Arrian differs from him only twenty miles, and on a coaſt where, he informs us, Nearchus could keep no true reckoning; it is extraordinary that his deviation ſhould be no greater. Pliny had evidently found the ſame number of ſtadia, but doubled the diſtance by uſing the Olympian ſtadium in his reduction. Mr. Dalrymple's anonymous chart[504] exceeds in reality all but Ptolemy; and it is a great diſappointment to find that a chart, upon which depends the beſt information for elucidating Arrian, ſhould be ſo defective in its meaſurement. It is, however, by no means aſcertained that the head of the gulph is correct in any chart; on the eaſtern part, even M'Cluer may be deemed dependent upon the information of his pilots, and though their eſtimate is ſufficiently juſt to anſwer their purpoſe, it is far inferior to the obſervation of an Engliſh navigator.

From Aginis, Arrian reckons it only five hundred ſtadia, or thirty-one miles, to Suſa, in which there is evidently an error either in the eſtimate or in the manuſcripts. D'Anville ſuppoſes that the letter expreſſive of a thouſand has been loſt, and Greek numerals, as ſingle letters, are eaſily omitted: to his opinion, therefore, I ſhould have no objection to ſubſcribe, if fifteen hundred ſtadia would carry Nearchus to Suſa; but that ſum is ſtill too ſmall, and Suſa[505] muſt be the termination according to the text; otherwiſe I would have fixed the meaſure to the bridge where the fleet joined the army.

D'Anville's diſtance from Aginis to Suſa is ſomething ſhort of an hundred and thirty miles, which Pliny ſtates at two hundred and

[504] Mr. Dalrymple is never accountable for the accuracy of the charts he publiſhes. The author is alone reſponſible; and in this caſe he is anonymous.

[505] Ἄγινις . . . . ἄνυτη δὲ ἀπέχει Σέσων σταδίους πεντακοσίους.

fifty; this, by the uſual reduction, is an hundred and twenty-five, agreeing ſufficiently with ſome comparative meaſures of Al-Edriſi[506], who has no direct route between theſe two points; but Strabo has evidently copied the ſame authorities as Arrian, and his account is not only equally deficient, but his numbers more confuſed. He reckons an hundred and fifty ſtadia to the bridge, and from the bridge ſixty to Suſa. This is out of all proportion; but it is immediately followed by an eſtimate of five hundred ſtadia from the Suſian[507] village to Suſa, by which village, if he means Aginis, it is evident that he read five hundred in the copies as well as Arrian, and not fifteen hundred, as d'Anville requires. I have before me the means of giving the real diſtance within a very few miles, which I ſhall produce upon bringing the fleet up to the bridge; and, to that diſtance, all the diſcordance of our authors muſt be obliged to ſubmit. I ſhall now carry the fleet up the Karûn, which Arrian calls the Paſitigris[508].

A Village in the Paſitigris. February 10. One hundred and thirty-ſecond day.

One day only is allowed at Diridotis, though poſſibly it ought to be more, and one day at Aginis. From Aginis the fleet entered the Paſitigris, and proceeded little more than nine miles to a village, where Nearchus waited till he ſhould receive intelligence that the army was approaching, which was to determine his progreſs, in order to effect a junction. The meaſures of the journal totally fail me here; for the hundred and fifty ſtadia attributed to this day's courſe lead to nothing, and are fully as diſproportionate as the five hundred aſſigned to the diſtance between Aginis and Suſa. This is

[506] He has one from Aſkar Mokram to Dorack of four ſtations, equal to about one hundred miles; and, by compariſon, this would give nearly the ſame meaſure as Pliny's and d'Anville's to Aginis.

[507] Lib. xvii. p. 729.

[508] On leaving Aginis, his words are, Ἐνθένδε κατὰ τὸν Παστίγριν ἄνω ἔπλεον, p. 357.

not more peculiar to my ſyſtem than to Mr. d'Anville's; for if they entered the Haffar from the Tigris, as he ſuppoſes, the paſſage through that canal is thirty-five[509] miles; and if they paſſed through the Delta, which is my ſuppoſition, the courſe is forty-five miles, inſtead of nine. I never abandon the meaſures of the journal without regret, as I find their general correſpondence of the utmoſt utility; but I wiſh, upon the preſent occaſion, to make the day's courſe terminate at the head of the Delta, where would be the natural poſition of the fleet while waiting for intelligence. In aſſuming the Karûn for the Paſitigris of Arrian, no error can be incurred but ſuch as has already been diſcuſſed[510]; and, in carrying the fleet up this channel, I adopt a courſe purſued by all the veſſels of the country, till within theſe few years, which came from Bender-Regh, Buſheer, or any of the ports on the eaſtern ſide of the gulph. Thevenot and Pietro della Vallé both paſſed this way; and though Thevenot deſcribes the country of the Delta as almoſt depopulated, and little cultivated, the natural property of the ſoil muſt be fertile, as conſiſting of ſlime accumulated by the rivers; and this fertility muſt have been turned to advantage, and improved, while the government was good, as it evidently was, under the early dynaſties. In this ſtate Nearchus found it, and deſcribes it as populous and flouriſhing; and the village they reached, as capable of ſupplying, not only their wants, but of adminiſtering to their gratification. One choice, therefore, only is left, to fix this village in the Delta on the banks of the Karûn, at nine miles from its

[509] Theſe meaſures are taken from Mr. Dalrymple's anonymous chart, and are both apparently too long.

[510] It has been ſuggeſted to me, that Nearchus might have ſailed up the Bamiſhere Channel, inſtead of the Karûn. My objection to it is, that the Karûn branch has been always navigated by the native veſſels in preference to the others. It is only ſince European traders have gone to Baſra, that the Coſſiſa-bony or Schat-el-Arab has been much uſed, the Bamiſhere, lying between the two, leaſt of all.

mouth, if we adhere to the hundred and fifty ſtadia of the journal; or, if we abandon them, to carry the fleet through the whole level to the head of the Delta, at the point where the Karûn croſſes the Haffar canal. The latter ſuppoſition ſeems preferable, on account of convenience; but there is nothing in the journal inconſiſtent with the former; for no diſtances are ſpecified from this point upwards, as they are all concluded in the five hundred ſtadia from Aginis to Suſa, however erroneous that eſtimate may be.

At this village Nearchus performed ſacrifices to the gods for the preſervation of the fleet, and the ſucceſs of his expedition. Theſe were attended with games as uſual; and the feſtivity natural to plenty and ſecurity ſucceeded to the fatigues of the voyage.

Having brought Nearchus to this village, I ſhall leave him in the enjoyment of his repoſe, till I have conducted the two armies under the command of Alexander and Hephæſtion on their march to Suſiana. The line of their progreſs is eaſily diſcernible; but, as there were no enemies to ſubdue, and the whole was the return of a victorious army, we have no geographical particulars from our claſſical hiſtorians; it is a bare outline, which, if neceſſary to be filled up, can only be effected by recourſe to modern authorities: it ſhall, therefore, no longer be dwelt upon, than is neceſſary to combine the movements of the ſeparate diviſions, to eſtabliſh dates, and to render the whole conſiſtent in all its parts.

We left Alexander at Giroft in the latter end of December, preparing for his progreſs by an inland route eaſtward of the mountains, while he detached Hephæſtion with the elephants and groſs of the army, with orders to croſs the mountains, and proceed along the coaſt of the gulph, through that level which is called the Kermeſir. I ought not to know more than my director, and he ſays, that Hephæſtion was ordered to take this route becauſe it was winter,

winter, and the winter was milder on the coaſt than inland. This is too true, for the mildneſs extends to heat, putridity, and unwholeſomneſs. It appears to me that Arrian has not preſerved the real cauſe of this order, for Alexander ſeems to have acted upon this occaſion, as upon all others, from the time he had no more enemies to ſubdue; that is, becauſe he was deſirous of obtaining a knowledge of his empire; and he detached Hephæſtion through the Kermeſir for the ſame reaſon he had ordered Craterus to proceed through Arachoſia from the Indus, and Nearchus to ſurvey the coaſt.

However this may be, Alexander himſelf appears to have moved from Giroft before the concluſion of the year, ſome days previous to the ſailing of Nearchus, and the firſt place to which we trace him is Paſagardæ [512]; for at Paſagardæ is the tomb of Cyrus, whether he

[512] A barren liſt of names will afford little information; but I ſubjoin the route from Giroft to Paſagardæ, extracted from Al-Edriſi, and ſhall continue it afterwards to Ragian. It has probably been the common road in all ages; for the principal places mentioned are of conſiderable antiquity, and exiſted in the age of Alexander.

		Miles.	
KARMANIA.	From Giroft to Canat Alſciam,	20	
	to *Maaun* *,	20	
	to *Valaſe-gerd*,	20	
	to *Adhercan*,	20	
	to Giaraman,	20	
	to *Keſcenſian*,	3	
	to *Roſtack-Arroſtack*,	40	143
PERSIA.	to Zamm Al-modhi,	15	
	to *Darbe-gerd*,	15	
	to *Seban*,	3	
	to Bercan,	12	
	to Narecan,	12	
	to Faſihan,	12	
	to *Tamſan*,	18	
	to *Faſa* or Paſa-gardæ,	12	
		242	

[N. B. The names in *Italics* alone are found in the modern maps.]

* Maaun is the town, *perhaps*, where Alexander received Nearchus; the Sal-Moun of Diodorus.

periſhed

periſhed in the war with the Maſſagetæ, or was gathered to his fathers with the Euthanaſia ſo beautifully deſcribed by Xenophon: and at Paſagardæ we find Alexander puniſhing Orſines for embeżzlement, and plundering the tomb of a native ſovereign. It is foreign to my purpoſe to enter into this tranſaction, ſtill I cannot help noticing that the aſperſions thrown upon the conduct of Alexander on this occaſion by Q. Curtius are neither conſiſtent with his character, nor countenanced by Strabo, Arrian, or any writer of eſtimation; but Q. Curtius debaſes the vices of the Conqueror with as little judgment as he extols his virtues. In both inſtances, it is the language of exaggeration without reſtraint, in which the author ſacrifices truth, not to the love of falſehood, but to warmth of imagination and brilliancy of expreſſion.

Paſagardæ [512] is confounded with Perſepolis by Arrian, upon Alexander's firſt viſit to the province, when he burnt the palace in that city, of which, ſays Arrian, he now repented; and whether it was the effect of inebriated phrenſy, revenge for the injuries of Greece, or the inſolence of victory, any one of theſe inducements was ſufficient cauſe of regret. Paſa, or Phaſa-gardæ, was miſtaken by many of the Greek writers, and the deception is natural; for the tranſlation of Pharſa-gerd would regularly be Perſepolis, and Pharſa-gerd differs from Phaſa-gerd by a ſingle letter. The former, however, ſignifies the city or capital of Phars; the latter a city, as Golius [513] informs us, cooled by the north-eaſtern gales.

On the preſent occaſion, Arrian diſtinguiſhes this city from Perſepolis; for we trace the progreſs of the army regularly from Paſagardæ to the capital; and it would be well if we had any characters to

[512] Phaſa ſtill exiſts, and Golius makes it the head of the diſtrict Darab, (ſo named from Darius,) one of the four into which the province is divided; the other three are Kobad, Saper, and Ardeſhir. See d'Anville. But Niebuhr ſays this diſtinction is now loſt.

[513] Gol. ad Alfrag. p. 114.

mark

mark the route, but theſe will be ſearched for in vain: we learn only that Alexander was there, by the circumſtance at his arrival of his conſtituting Peuceſtas ſatrap of the province, who had ſaved his life in India, and who was now ſo prudent a courtier as to aſſume the habit, and learn the language of the country. He had before been raiſed to the rank of Guard[514] of the Royal Perſon, and afterwards conducted to Babylon a body of twenty[515] thouſand native troops, raiſed in his province, and armed in the Macedonian manner. This is a circumſtance which developes the future deſigns of Alexander more than all the conjectures of his hiſtorians.

Perſepolis, in its Greek form, evidently marks Pharſa-gerd as its Perſian original; but the name was not preſerved even in the middle ages, nor does any other name appear but Iſtakhr, or Eſtakhar, which declined into a village as Schiraz[516] roſe into a capital, under the auſpices of the Mahometan conquerors. The name of Eſtakhar itſelf ſeems now almoſt to have periſhed, for there is not even a village[517] at the ruins, now called Chel-minar or the Forty Pillars, or at Naxi-Ruſtam in the neighbourhood, both which beſpeak the magnificence of the ancient capital, and the workmanſhip of that age[518], which is diſcoverable in the Egyptian ruins. The conſequence is, that Al-Edriſi has no route to Eſtakhar, but to Schiraz[519]

[514] The Σωματοφύλακες, or *body-guard*, were originally only ſeven: Leonnatus, Hephæſtion, Lyſimachus, Ariſtonous of Pella, Perdiccas of Oreſtis, Ptolemy and Python of Eordæa. To theſe Peuceſtas was added when Alexander was in Karmania. Arr. lib. vi. p. 269.

[515] Others ſay thirty thouſand.

[516] Written Zjiraes, Xiras, Dsjiraus, Chiraz, &c. founded anno 336 of the Hejra. Gol. p. 116.

[517] Niebuhr reſided at a village in the neighbourhood.

[518] The building of Perſepolis is imputed to Caiumaras, the firſt name in Perſian mythology. The ruins of Chel-minar are given in Le Bruyn, Niebuhr, &c. &c.

[519] Route from Phaſa to Schiras. Al-Edriſi, p. 127:

	Miles.
From Phaſa to *Kar*, -	15
to Rebat, -	12
to Haramim, -	12
to *Schiraz*, -	21
	60

only,

only, and Eſtakhar lies thirty-ſix miles[520] ſouth-eaſt of Schiraz. The route, therefore, which I inſert ſerves only to ſhew a comparative diſtance, and the difference between Schiraz and Eſtakhar is juſt ſo much out of the direct modern road.

From Perſepolis nothing intermediate appears till the arrival of the army at Suſa, except the junction of the fleet at the Paſitigris; the route, however, is evidently the ſame as the modern one, which enters Suſiana at the bridge on the Tab or Aroſis, called Baccar, within a ſmall diſtance[521] from Ragian. At Ragian a variety of routes terminate which come on the one hand through Perſis, and on the other through Suſiana; for here ſeems to be the point where the Tab will firſt admit of a bridge, and conſequently it is the centre of communication between the two provinces. Hither we may bring Hephæſtion, who came along the coaſt; and by this road Parmenio[522] muſt have entered Perſis from Suſiana, when Alexander paſſed higher north, upon his original invaſion of the province.

Let us then ſuppoſe Alexander on his progreſs from Perſepolis to Ragian, his march cannot lie out of the route which I have given from Schiraz[523]; and at Ragian let his army halt, till I have brought up Hephæſtion to a junction.

If it were neceſſary to trace the whole progreſs of this diviſion from the time it left the army in Karmania, there are routes by

[520] Golius ad Alfrag. p. 116. D'Anville gives the ſame diſtance, but makes it north-eaſt.

[521] See Al-Edriſi, p. 126. He ſays a bow-ſhot.

[522] Arrian, lib. iii. p. 130. κατὰ τὴν ἀμαξιτὸν τὴν ἐς Πέρσας φέρουσαν.

[523] Route from Schiraz to Ragian. Al-Edriſi, p. 126:

	Miles.
From Schiraz to Giouan,	15
to *Chalan*,	12
to Charrara,	15
to *Korchemam*,	15
to Horaidan,	12
to Raſain,	22
to *Ragian*,	21—112

which

which it is not impoſſible to mark the greateſt part of its general direction; and if the work of Beton and Diognetus were extant, it would be no little gratification to compare it with our modern journals: but, as the matter ſtands, I have little more than a barren liſt of names to preſent, without intereſt or information, and therefore refer it to the margin. Pietro della Vallé [524] travelled from Mina to Lar, but labouring under illneſs, and in a litter; and Le Bruyn [524] has a route from Gomeroon to Lar. From Lar, the route to Giouar falls into a journal [525] of Al-Edriſi's, probably at Mai. Paſſing

[524] Route from *Mina* to Lar. Pietro della Vallé, vol. v. p. 418:

From Mina to	*Ciuciululion*,
to	*Iſin*,
to	Kuſciar, perhaps* Rudſciour,
to	Kahariſtan,
to	Guri-bizirgon,
to	Tenghi-dalan,
to	*Khormud*,
to	Boadini, a Caravanſerai,
to	Baſili,
to	*Lar*,

[524] Route from *Gomeroon* to Lar. Le Bruyn, vol. ii. p. 70:

Gomeroon †.
Bandalie.
Gesje.
Koreſton.
Goer-baſer-goen.
Tang-boe-dalon.
Gormoet.
A Caravanſerai.
Baſiele.
Lar.

The route from Mina and that from Gomeroon join at Kahariſtan, which Le Bruyn writes Koreſton, and from thence to Lar, the names, however disfigured, are the ſame. This courſe conſequently continued unchanged from 1620 to 1693. In Al-Edriſi, p. 131. we can only diſcover that the route went to Sciura, that is, Rud-ſciour, the ſalt river of Pietro della Vallé, the Karius or Korius of Ptolemy, the Salſos of Pliny.

[525] Route from Siraf to *Giouar*, or *Firuz-abad*. Al-Edriſi, p. 125:
(Siraf is near Keiſh, and the mart of the gulph formerly.)

		Miles.
From Siraf to	Borcana,	21
to	Adhercan, or Ras-Al-acbe,	12
to	*May*,	18
to	Kabrend,	18
to	Chan-Arademerd,	18
to	Giar,	18
to	Daſt Surab,	9
to	Giouar,	15—129

* Becauſe he mentions a ſalt river here.

† Tavernier, lib. v. p. 747. &c. has the ſame route as Le Bruyn, and with equal variation in the orthography.

Paſſing from hence to Giouar, in the road to Schiraz. From Giouar there are two routes to the Tab, or Aroſis; one along the coaſt noticed by Al-Edriſi, through Gennaba [526], and another inland, as I conceive, by Kaſeron. It is apparently the latter that was purſued by Hephæſtion; for at Sitakus, where the fleet lay for one-and-twenty days, we have intelligence that this army was not very near the coaſt, and there can be no reaſon for its approach towards the ſea afterwards. I find no route from Kaſeron to Ragian, but a view of the map will ſhew, that it muſt ſoon fall in with the road from Schiraz to that town, which has in all ages been the direct communication between Perſepolis and Suſa, as it is at this day between Schiraz and Toſtar, if it exiſts; and, from the bridge at Ragian to Suſa or Toſtar, it is ſhort of an hundred and forty miles. I give this whole account ſubject to the correction of any traveller,

The route from Lar to Giouar ought to fall into this at Adhercan, or Ras-Al-acbe, which are the ſame; for Ras-Al-acbe ſignifies the top or paſſage of the mountains. Theſe mountains are the chain, which I ſuppoſe to run inland from Dâhr Aſban, and to produce both the Nabon and Darabin rivers.

[526] Route from Giouar to Giannaba. Al-Edriſi, p. 125:

	Miles.
From Giouar to Kazeron (*Kazarun*),	48
to Roſaic, -	12
to *Tauag*, -	24
to *Giannaba*, -	36
	120
From Giannaba* to Ragian by eſtimation,	38
	158

The road inland, from Giouar to Ragian, may be thirty miles ſhorter, or about 130 miles upon the whole; ſo that the march of Hephæſtion from Mina to Ragian would be,

	Miles.
by eſtimation, to Lar, -	145
to Giouar,	129
to Ragian,	130
	404

And as he took the interior circle along the coaſt, this bears a due proportion to the march of Alexander. Whether theſe extracts are worth the trouble, I cannot ſay; they come out in proportion, but are not entirely to be depended on; for I cannot diſcover Al-Edriſi's mile. I have tried it by ſeveral known diſtances, but it exceeds ſometimes, and ſometimes falls ſhort. I once ſaw an eſtimate of this mile in Mr. Howe's papers, communicated to me by the Biſhop of Rocheſter, but could not find it upon a ſecond reference to them.

* Giannaba is the Gennaba of d'Anville, the Gunowah of M'Cluer.

who

who is acquainted with the actual ſtate of the country at the preſent hour, having no living authority to conſult; and I am ſufficiently perſuaded, without correction, that the deſolation of theſe provinces has removed the land-marks which the ancient or early writers have enabled me to point out. With due allowance for this natural obſcurity, I ſubmit the whole to the judgment of the reader, and ſhall conduct the army, once more united, to the Paſitigris, and to a bridge on that river where Nearchus is to conclude his expedition.

The Paſitigris is evidently a river which the army paſſed before it could reach Suſa: this appears, by ſomething more than conjecture, to be the Kouroucan-Kendé of Timour, the ſecond ſtream eaſt of the Eulæus. And if the Kopratas of Strabo and Diodorus anſwers to the Dou-danké of Timour, as I conclude, that ſtream joins the Paſitigris previous to the junction of the Paſitigris with the Eulæus. This will afford the means of aſcertaining the poſition of the bridge, if ever the interior geography of Suſiana ſhall be obtained; but there is a ſtill more correct method of arriving at the ſame end, which is by drawing a line from Ragian to Suſa, and fixing the bridge where this line interſects the Paſitigris; in this, there can hardly be an error of more than a few miles either way, and this is the poſition I ſhall aſſume. There is no route in Al-Edriſi from Ragian to Toſtar, but d'Anville makes the diſtance about an hundred and forty-five geographical miles, and this, from other comparative meaſures[527] in the province, is apparently

[527] Diodorus, lib. xix. p. 334. ſays, it is twenty-four days' march from the Paſitigris to Perſepolis. This ſeems too long, unleſs he means that the army of Eumenes were ſo many days in performing it.

The diſtance is, from the Paſitigris
to Ragian, 100 miles,
to Schiraz, 112
to Perſepolis, 36—248

parently juſt. From this ſum, if we deduct forty or fifty miles, to give the diſtance from the bridge to the capital, we obtain a geographical reduction as nearly the truth as our information will enable us to hope.

I ſhall next conſider the whole diſtance from Giroſt to Suſa, which ſtands thus:

	Miles Geog.
From Giroft to Phaſa, - -	242
From Phaſa to Schiraz, - -	60
From Schiraz to Ragian, - -	112
	414
Allowed diſtance from Ragian to Suſa, -	145
	559

In the ſame ſpace, d'Anville allows eight degrees, or four hundred and eighty miles, which, with a ſeventh added for road diſtance, makes a total of near five hundred and forty-nine miles, a difference not worth regarding; but it ought to be remarked, that Alexander departed from this route, by going to Perſepolis, which adds fifty or ſixty miles to the ſum. This we compenſate, however, by taking the meaſure, not to the Paſitigris, but to Suſa; ſo that if we fix the total at five hundred and ſixty geographical miles, equal to ſix hundred and fifty-four miles Engliſh, there can be no error of importance.

Let us now refer to the dates. If the army moved from Giroft on the twenty-fifth of December, as I have proved it might have done, and Nearchus arrived at the village on the Paſitigris the 10th of February, the interval is forty-ſeven[528] days; and then the num-

Eumenes moved, therefore, at the rate of little more than ten miles a-day; but Diodorus mentions that it was in the height of ſummer, and the heats intolerable.

[528] Forty-eight inclufive.

ber of miles, divided by the number of the days, gives nearly fourteen miles a-day for the march of the army. This rate is evidently too high[529], becauſe it makes no allowance for the time Alexander ſtaid at Phaſa-gardæ and Perſepolis, where he had buſineſs to tranſact, or for the neceſſary halts of the army; but we are to conſider that Nearchus ſtaid at the village till he heard of the approach of the troops, and, therefore, any interval that will coincide with their arrival may be aſſigned to his delay. Fourteen days will anſwer every purpoſe that is requiſite; and if we bring Alexander to the bridge on the Paſitigris upon the twenty-fourth of February, we have at leaſt a conſiſtent date, if not the true one; and as no real day is aſſigned in any author[530] that is now extant, this is the only kind of preciſion that can be expected.

This bridge on the Paſitigris is deſcribed as a bridge of boats, which had been thrown over the river for the accommodation of the troops; but as bridges of this kind are the ordinary means of communication throughout the empire, and the route was by the common road from Perſis, it is reaſonable to ſuppoſe that there was always a bridge nearly in the ſame place. Neither ought I to omit a circumſtance accidentally preſerved in Diodorus, which at the ſame time indicates the neceſſity of a bridge, and the poſſibility of navigating the Paſitigris: for this river, he informs us, was from three[531] to four ſtadia broad, and its depth correſpondent.

[529] A Macedonian army, upon occaſion, marched from twenty to twenty-five miles a-day; but the marches of the ten thouſand reduced, amount to thirteen or fourteen miles; and this is a fair eſtimation for the march of a Macedonian army, when no particular object was in view. Alexander was twenty days in marching from Babylon to Suſa, three hundred miles; forty days conſequently give ſix hundred miles; but he then moved to ſeize the treaſure: he had now no particular object in view.

[530] Pliny ſays ſeven months.

[531] According to the ſtadia of Arrian, one-fourth of a mile. See *ſupra*, p. 415. Where I have ſaid the breadth was 400 feet; perhaps Diodorus aſſigns this breadth to the Kopratas. See p. 331. compared with p. 330. and p. 211.

To

To this bridge I conduct Alexander; and hither, upon hearing of his approach, Nearchus proceeded from the village, up the ſtream, to join him. No ſpace of time is allotted by the journal for this navigation; but as the paſſage could not be leſs than from an hundred to an hundred and twenty miles, it would ſcarcely require leſs than three days, and poſſibly more, notwithſtanding they might have the advantage of the tide at the commencement of their progreſs. The fleet ſeems to have reached its deſtination before[532] the army; but no ſooner did Alexander arrive, than he embraced Nearchus with the affection of a friend, and the acknowledgments of a ſovereign. One object of his ambition was to conquer difficulties unattempted by others, and one aim of his policy was to obtain a knowledge of his empire; both theſe purpoſes were effected by the accompliſhment of this expedition; his ſatisfaction was complete. The reception of Nearchus among his countrymen was as honourable as that which he experienced from the king; wherever he appeared in the camp, he was ſaluted with acclamations; while gratitude and admiration united in weaving the wreath and the chaplet to crown him for his ſucceſs. Sacrifices, games, and univerſal feſtivity, cloſed the ſcene of this happy union. Thus have I conducted the ſeveral diviſions of the forces and the fleet from Nicæa on the Indus, to the termination of their labours in Suſiana; and I conclude the expedition on the twenty-fourth of February, in the year three hundred and twenty-five before the Chriſtian æra.

The time employed in accompliſhing this voyage from the mouth of the Indus is an hundred and forty-ſix days, or ſomewhat ſhort

[532] Πρὶν τῇ χειρὶ ὁμίζονται ἐφ' ᾗ τὸ στράτευμα διαβιβάσειν ΕΜΕΛΛΕΝ Ἀλέξανδρος ἐς Σῦσα. Arr. p. 358.

of

of five[533] months, which Pliny has extended to ſeven[534], and in which he is neither conſiſtent with the departure from Nicæa, or from the mouth of the Indus. A modern veſſel, it is true, may perform the ſame courſe in three weeks which employed Nearchus twenty-one; but we are not for that reaſon to undervalue the merit of the firſt attempt. Within the memory of man, a voyage to India required eight or nine months; but Dr. Robertſon[535] mentions, that, in the year one thouſand ſeven hundred and eighty-eight, the Boddam Eaſt Indiaman reached Madras in an hundred and eight days, and it has ſince been performed in ninety-ſix.

Here the narrative ought to cloſe; but I truſt the reader will have no objection to accompany Nearchus to Suſa, where he is to receive the reward of his labours. To Suſa, after croſſing the Paſitigris, Alexander proceeded with all his forces, and in that capital, where the principal treaſure of the empire was depoſited, he prepared to diſtribute that remuneration which had been earned by the faithful ſervices of his army, and thoſe honours which are due to merits of diſtinction.

The firſt inſtance of his liberality was exhibited in diſcharging[536] the debts of the army, which are eſtimated, not perhaps without exaggeration, at twenty thouſand talents, equal to three millions eight hundred and ſeventy-five thouſand pounds ſterling; an enormous ſum! But if we ſuppoſe the Macedonians alone to partake of this favour, and eſtimate them at forty thouſand[537], it amounts to

[533] Five *lunar* months and ſix days.

[534] Lib. vi. p. 136.

[535] Diſquiſ. Ind. p. 207.

[536] Diodorus places this tranſaction at the time of diſmiſſing the veterans, mentions their debts only, and eſtimates them at ten thouſand talents. Vol. ii. p. 246.

[537] Notwithſtanding the reduction by war, infirmity, and the march through Gedroſia, it may be calculated from the reinforcements which had joined, and the ſervices of the army immediately upon the death of Alexander, that the number was greater rather than leſs.

leſs

leſs than an hundred[538] pounds a man: we muſt obſerve moreover, that the debts of the officers were included in this eſtimate, and the exceſs of their proportion muſt ſubtract from the quota of the private ſoldier. Many of them had lived with the luxury of Oriental[539] ſatraps, and poſſibly Antigenes was not the only one who gave in his debts above their real amount. If, therefore, proper deduction be made on theſe ſeveral accounts, the proportion to the individual will not appear ſo extravagant as the groſs ſum.

A ſecond ſcene of magnificence was preſented upon the marriage of Alexander, and that of his principal officers, who were induced by his example, or influenced by his favour, to receive the daughters of the nobleſt Perſian families at his hands. Alexander himſelf had before married Roxana, the daughter of Oxyartes, ſatrap of Bactria; and he now gave his hand to Barſine[540], the daughter of Darius; to whom Ariſtobulus adds a third, who was Paryſatis, the daughter of Ochus. Eighty marriages of this ſort were celebrated in the ſame nuptial feaſt; and among the number was that of Nearchus, with the daughter of Mentor and Barſine. The king bore the whole expence of the ſolemnity, and furniſhed the marriage portion[541] for every bride.

Next ſucceeded the diſtribution of honours, and the reward of ſervices. All the officers, who had obtained the rank of Guards of the Royal Perſon, received crowns of gold, including Leonnatus for his victory over the Oritæ, and Peuceſtas for his ſervice in preſerving the life of his ſovereign. In this honour Nearchus alone[542] partook as admiral, and Oneſicritus as the navigator of

538 Ninety-ſeven pounds, all but a fraction.

539 See Athenæus, lib. xii. p. 539.

540 Statira.

541 Μυριάδας. 10,500 talents. Athenæus.

542 At leaſt no others are mentioned by name.

the

the fleet. Nearchus was likewiſe continued in his command, and deſtined to a future ſervice of greater importance than the voyage he had already performed, that is, the circumnavigation of Arabia to the Red Sea. This was intended as the completion of the great deſign that Alexander had conceived of opening the communication between India and Egypt, and by means of Egypt with Europe: of this commerce, Alexandria was to be the center. Such, by the natural courſe of events, it afterwards became, and ſuch it continued for eighteen centuries; but this plan was defeated by the unexpected death of the monarch; and the fate of Nearchus in the enſuing ſtruggle for empire is no farther diſcoverable, than that he was made governor of Lycia[543] and Pamphylia[544], and that he attached himſelf to the fortunes of Antigonus. We find him with that general croſſing the mountains of Louriſtan[545], out of Suſiana, after his conteſt with Eumenes, and two years afterwards as one of the adviſers[546] Antigonus had given to his ſon Demetrius, whom he left in Syria. I have looked for the concluſion of his life in vain[547]; but this event poſſibly took place at the battle of Ipſus,

[543] The firſt mention of Nearchus; as governor of Lycia and Pamphylia, occurs in Juſtin. This, however, does not greatly interfere with the diviſions of the empire given in Photius, p. 220; for both theſe provinces are aſſigned to Antigonus; and Nearchus, as being high in his favour and confidence, was probably appointed by him to theſe provinces. It is remarkable, that in Photius's extract from the ten books of Arrian, (τὰ μετὰ Ἀλεξάνδρον,) concerning the tranſactions after the death of Alexander, the name of Nearchus is not once mentioned.

[544] Juſtin, lib. xiii. cap. 4. Oroſius, lib. iii. c. ult. See Q. Curtius, Snakenborck: Diviſio Imperii.

[545] Diodor. lib. xix. p. 333.

[546] Diodor. lib. xix. p. 372. ed. Weſ.

[547] I dare not pronounce that nothing is to be found relating to Nearchus after the battle of Ipſus, but I have ſearched Diodorus, Plutarch, Arrian in the extracts of Photius, Juſtin, Q. Curtius, and the indefatigable commentators of that author, Freinſhem and Snakenborck, without ſucceſs. Neither have I found any anecdotes relating to his life previous to the expedition, except what the Baron de Sante Croix has anticipated. Exam. p. 250.

Ipſus, where Antigonus fell; or, after the battle[548], by the command of the four kings who obtained the victory. In whatever manner he cloſed the ſcene of life, and by whatever means he was prevented from completing his voyage into the Red Sea, that part of it which he had performed muſt be the monument of his glory.

His beſt encomium is compriſed by his hiſtorian in a ſingle ſentence. Thus was the fleet of Alexander conducted in SAFETY from the Indus to its deſtination.

ΟΥΤΩ ΜΕΝ ΑΠΕΣΩΘΗ ΑΛΕΞΑΝΔΡΩι ΕΚ ΤΟΥ ΙΝΔΟΥ ΤΩΝ ΕΚΒΟΛΕΩΝ ΟΡΜΗΘΕΙΣ Ο ΣΤΡΑΤΟΣ.

by which it appears, that he was a native of Crete, and enrolled a citizen of Amphipolis, as we may conclude, at the time when Philip, having taken that city from the Athenians, was collecting inhabitants, in order to eſtabliſh it as the mart of his new conqueſts in Thrace. He did not continue at Amphipolis, but came up to the court of Philip; and had ſo ingratiated himſelf with Alexander, that in the family diſſenſions which aroſe upon the ſeceſſion of Olympias, and ſome ſecret tranſactions of her ſon in regard to a marriage with the daughter of Pexodorus, ſatrap of Caria, Philip baniſhed Nearchus, with others whom he ſuppoſed too much attached to the intereſts of Alexander. Upon the death of Philip he was recalled, and his ſufferings in the cauſe naturally ſecured the affections of his ſovereign. See Plutarch in Vita Alex. p. 669. edit. Franckfort, 1599.

[548] This battle ought to have been found in the 21ſt book of Diodorus, but the extract only is extant.

SEQUEL

IRAK ARABI
BAGDAT
IRAK
ARABIA
TIGRIS
BABYLON
Mesched Hussein or Kerbela
Hillah
Hubra
Meshed Ali
Nedjef
Semauat
Wasith
Amara
EUPHRATES
TIGRIS or DEGLAT
Lake Bahr Nedjef
Lake Zahrmond
Great Desert between Bussra & Aleppa
Gunedhi or GYNDES R.
Louri Stan
SUSIANA
Susa
Pasargarda
Dez
Shuster
Jundi Shapour
Karun
Ardeshir Bugian
PERSIS
Kerman
Gulph of Persia
Bussra
Old Bussra
Lahsa
Katif
Bahrein
Grane
Mesopotamia
Arabia Petræa
Persian Gulf
Map of Babylonia, Tigris, Euphrates Eulæus, Pasitigris & Susiana chiefly from d'Anville by W. to front the Sequel
Published according to Act of Parliament June 2d 1797 by W. Vincent
62
63
64
65
66
67
68
33
32
31
30

SEQUEL

TO THE

VOYAGE OF NEARCHUS.

THE military character of Alexander dazzles the mind ſo powerfully with its ſplendour, that it is not without an effort the attention is directed to the plans of his policy, and the arrangement of his empire. To excite this attention, has been the endeavour of the preceding pages; and, if the ſubſequent narrative contributes to the ſame deſign, it will be no unintereſting appendage to the work.

Having conducted the united forces of the Macedonians to Suſa, in the latter end of February 625 A. C. we may allot ſomething more than a month to the tranſactions which took place in that capital, and fix the time for the departure of the army at the beginning of April.

The main[1] body of the troops was put under the command of Hephæſtion, with orders to proceed towards[2] the Tigris; but

[1] Arrian, lib. vii. p. 281.

[2] Arrian ſays, to the Gulph of Perſia; but it will immediately appear that Alexander met them again on the Tigris.

Alexander himſelf determined to take a view of the Gulph of Perſia; and, for that purpoſe, embarked on board the fleet with the Hypaſpiſts[3], the firſt[4] troop of horſe, and a ſmall body of the Companions[5]. He embarked, ſays Arrian, on the Eulæus; and, if this be true, the fleet muſt have been brought down the Paſitigris to the junction of that river with the Eulæus, or even from that junction up the Eulæus, to Suſa. This ſuppoſition is not contradictory to any thing which appears in Arrian; and, if it is allowed, ſolves the objection ariſing from calling the ſame river by two names; for Alexander undoubtedly fell down the ſame ſtream which Nearchus had navigated upwards from the ſea. The annexed map will render this more perſpicuous than any explanation which can be added, but the cauſe of variation in the names requires ſome notice.

It has been obſerved already, that Nearchus entered that channel which he calls the Paſi [or eaſtern] Tigris: this, at its iſſue, is ſtyled the Khore Mooſa, (the Moſæus of Ptolemy,) and above the Delta, Karún: but Nearchus, having entered the Paſitigris, carries that name up with him, through the Karún, to the confluence of two ſtreams inland; one of which, leading on the weſt to Suſa, is the Eulæus, and the other on the eaſt, preſerves its title to Paſitigris[6]. Nearchus navigated this eaſtern branch up to the bridge; and Arrian, copying Nearchus only in the journal, of neceſſity uſes the ſame appellation as the authority he follows.

[3] N. B. The Hypaſpiſts alone are three thouſand. Arrian apud Photium, p. 610. Diod. Sic. lib. xviii. and xix. p. 339.; but the Argyraſpides are mentioned ſeparately.

The Hypaſpids are Macedonian infantry, in contradiſtinction to the Greek Hoplitæ, foot heavy-armed.

[4] τὸ ἄγημα.

[5] Companions. Ἑταῖροι. Macedonian horſe.

[6] In Strabo, Diodorus, and Q. Curtius, as well as Arrian

But

But upon the embarkation of the troops the caſe is changed, for here he follows Ptolemy and Ariſtobulus; and Ptolemy, who was by office about the perſon[7] of the king, was almoſt neceſſarily a partaker in the expedition. Ptolemy, therefore, embarked at Suſa, if the fleet came up to the capital, or, if it came no higher than the confluence, he marched down by the Eulæus, with the troops which were to embark there, and naturally called that ſtream the Eulæus, the courſe of which he had followed from the city. This brief recapitulation explains the reaſon of attributing two names to the ſame river, and reconciles two paſſages of Arrian which at firſt ſight appear not a little diſcordant. I ſhall only add, that, in the *Hiſtory*[8], the name of the Eulæus being once admitted, never varies; and in the *Journal*, the Paſitigris being adopted, there is no mention of the Eulæus.

Down this ſtream, the fleet deſcended to the head of the Delta; and here, where the Haffar[9] canal comes in from the Tigris, a new arrangement was made; the veſſels which had ſuffered moſt in the voyage, were ordered to proceed, with the troops they had on board, through that cut into the Tigris; and it is remarkable that Arrian mentions it expreſsly, not as a natural ſtream, but an artificial[10] canal. What can preciſion require more? It is not my intention in this Sequel to dwell minutely upon particulars; but I cannot help noticing that this is ſtill the uſual paſſage[11] for the country veſſels,

[7] Σωματοφύλαξ.

[8] Lib. vii. p. 281.

[9] D'Anville conjectures Haffar may be the Aphlé of Pliny. May they not both be the the Amjé of Herod. lib vi p. 447 edit. Weſ.; for the ſituation of Herodotus's Ampé, at the mouth of the Tigris, is more preciſe than Pliny's Aphlé?

[10] αἱ δὲ ἄλλαι αὐτῷ ναῦς ἀνακομισθῆναι κατὰ τὸν Εὐλαῖον ἐς ἐπὶ ΔΙΩΡΥΧΑ Η ΤΕΤΜΗΤΑΙ ἐκ τοῦ Τίγριτος ἐς τὸν Εὐλαῖον, κώπῃ δὲ κομισθῆναι ἐς τὸν Τίγριτα.

The modern expreſſion is equivalent. Kalla-el-Haffar; the Haffar cut.

[11] I nevenot and D. della Valle went up it. The Khore Bamiſhere has been ſince navigated.

and

and that we find the eaſtern entrance of it guarded by a fort, with two others at its iſſue into the Tigris. The lower one of theſe is in the Delta, and that part of the Delta called the Meſene, on the ſite of which we ought to look for the Spaſini Charax, as the moſt convenient ſpot: but if it cannot be found there, it is poſſibly ſtill diſcoverable [12], for it was a mound of earth collected from the neighbourhood, which, upon a level like the Muçan, is perhaps viſible to the preſent hour. Tumuli of this kind are more eternal than walls of ſtone.

Alexander, after diſpatching the greater part of his fleet by this paſſage, proceeded with the lighteſt and beſt ſailing veſſels apparently by the Karûn branch, or Khore Mooſa, through the Delta to the ſea. From this khore, his paſſage to the Tigris [Schat-el-Arab] would naturally be acroſs the Ali-Meidán, for this ſhoal would be no obſtacle to veſſels like thoſe in which he had embarked. But of this paſſage we have no other account, except the mention of the intervening pace which Nearchus had navigated twice before. The ſeparate narrative, in fact, is ſo brief, that it employs only four lines to conduct him into the Tigris, to convey him up to the camp of Hephæſtion, and from the camp to Opis, where the expedition cloſes.

Concerning the navigation of the Tigris little can be added from modern information; the paſſage between Baſra and Bagdat, we learn from Hackluit, requires forty-four [13] days againſt the ſtream, with fourteen men to draw the boat; and, from Bagdat downwards, may be performed in nine, eighteen, or twenty-eight days, accord-

[12] What perpetual inundation may have done is not to be calculated; otherwiſe, if this ſite were ſearched for, it would indubitably be found.

[13] Hackluit, vol. ii. p. 251. 270. Sometimes ſixty days, as Tavernier and P. della Vallé aſſert.

ing to the ſtate of the river. Otter[14], who performed this voyage himſelf, has few materials to ſupply; he embarked in June[15], when the river ought to be full; and he mentions little, but that he found no cultivation between Bagdat and Al-Modain, and that he ſaw at Amara the mountains which bound Suſiana on the north, beginning to riſe at ſome diſtance on his left. He notices beſides a canal from Amara to the Euphrates, which forms a Dgeſiré, or iſland, inhabited by the Arabs Beni Lamé. To this barren account Colonel Campbell[16] adds, that the river itſelf is grand, but the country furniſhes ſcarcely an object for reflection. "I do not remember (he ſays) "to have ever paſſed through ſuch a vaſt extent of country, ſo "uniformly dull and unintereſting, or to have ſpent eight or ten "days with ſo little to give birth to a new idea[17].

Alexander, at the ſeaſon he navigated this ſtream, probably employed as many days as are now requiſite; ſo that he could hardly reach Opis, which is above Bagdat, till the middle of June, more eſpecially as he had the dykes to remove, with which the Perſian monarchs had obſtructed the ſtream. His hiſtorians delight in attributing theſe obſtructions to the timidity of the Perſians, and the removal of them to the magnanimity of the Conqueror; but Niebuhr[18], who found ſimilar dykes[19] both in the Euphrates and Tigris ſtill

[14] Tom. ii. p. 39. et ſeq.

[15] June 10th, at Bagdat. June 14th, at Amara. June 17th, at Khorna. June 18th, at Baſra. Nine days, agreeable to Hackluit.

[16] Journey of Donald Campbell, Eſq. 1795. Part iii. p. 10.

[17] He notices the heat as intolerable.

[18] This is mentioned at Lemloun, on the Euphrates; at Higré, Hogkne, and Eſki Moſul, on the Tigris. Niebuhr, vol. ii. p. 307. Edit. Amſt. Travels. He ſuppoſes the mound at Higré to be in the very place of that demoliſhed by Alexander.

[19] Tavernier mentions one of theſe dykes one hundred and twenty feet high in the fall, between Moſul and the great Zab. Vol. i. p. 227.

exiſting,

exiſting, obſerves, that they are conſtructed for the purpoſe of keeping up the waters to inundate the contiguous level; if ſo, the demolition is as derogatory from the policy and ſagacity of the monarch, as it is flattering to his intrepidity.

Opis was the principal city on the Tigris, in the age of Xenophon and Alexander; it roſe probably on the decline of Ninive, and the other Aſſyrian cities after the Perſian conqueſt, moſt of which Xenophon found in a ſtate of decay and deſolation; but the ſituation of Opis[20] is much doubted by geographers. There is no apparent reaſon indeed why the poſition aſſigned to it by d'Anville ſhould not be admitted; but having examined the queſtion for my own ſatisfaction, I have ſubjoined the reſult of my inquiries for ſuch readers as may find a pleaſure in geographical diſcuſſion.

After conducting Alexander to Opis about the middle of June, the military tranſactions which ſucceeded are foreign to the purpoſe of the preſent work. It will be ſufficient barely to mention the mutiny of the army which took place at this city, and the diſcharge of the veteran ſoldiers, who were ſent home under the command of Craterus. The latter end of the ſummer was employed in an excurſion into Media; and at Ecbatana, the capital of that province, the death of Hephæſtion was the principal circumſtance which occurred. Paroxiſms of grief occupied the Conqueror during the autumn; in the indulgence of which, like another Achilles, he diſhonoured himſelf, while he intended to honour the memory of his Patroclus. Upon the commencement of winter, he is ſaid to have reſumed his arms in order to ſooth his ſorrow; and the con-

[20] In hoc Chaldæorum tractu fuit Opis, emporium ad Tigrin, ſed incertum quo loco et ordine reſpectu oppidorum a Ptolemæo memoratorum. Cellarius, vol. ii. p. 462.

queſt

queſt of the Koſſæi was completed in forty days. They are the ſame tribe ſtill called Kouz[21], or Coſſes, inhabiting the mountains of Louriſtan; and, by the invaſion of them from the north, ought to be on the northern[22] face of that range which incloſes Suſiana. Upon the concluſion of this expedition, Alexander returned towards Meſopotamia, with an intention of proceeding to Babylon; and, upon this march, we are again informed of a renewed attention to his marine: for Heraclides was now ſent into Hyrcania [Mazanderan], with orders to cut timber and prepare a fleet of veſſels built after the Grecian manner, for the purpoſe of exploring the Caſpian[23] Sea. It ſeems extraordinary, that in the age of Alexander it was ſtill doubted whether this ſea was a vaſt lake, or communicated with the Northern Ocean; but the information of Herodotus, as it appears, had not been ſufficient to convince the Greeks of its real ſtate. The ſolution of this doubt was a ſufficient motive to influence the conduct of Alexander; and the deſire of obtaining a knowledge of his own empire, or the ſituation of the nations on his confines, had always been an inducement to the boldeſt of his undertakings.

After croſſing the Tigris, he proceeded to Babylon[24], and entered the city much againſt[25] the inclination of the prieſts of Belus.

[21] Plutarch writes this name Κυσσαῖοι, Kuſſæi; and hence Kiſſii. Alexander, p. 704.

[22] As the Uxii are on the ſouthern. ἔθνος ὁμόρον τῷ Οὐξίων. Arr. lib. vii. p. 294.

[23] It is remarkable that Nadir Shah was building a fleet on the Caſpian, and forming one on the Gulph of Perſia, a few months before his death, as well as Alexander. The tranſporting of timber and veſſels into the provinces which were not ſupplied with either is likewiſe noticed by Hanway, Otter, and Sir William Jones, &c.

[24] Babylon is four German miles from Hilleh. Niebuhr, p. 235. The Euphrates, at Hilleh, is four hundred yards wide, with a bridge of thirty-two boats, p. 234.

[25] Omens occur as uſual, and Nearchus is mentioned by Plutarch as the officer who came out to meet the king, and forewarn him of his danger.

They had embezzled the revenues allotted for the reſtoration of the temple[26] demoliſhed by Xerxes, and wiſhed to avoid the day of account. The ſituation of Babylon is too well known to require much diſquiſition on the ſubject: it ſtood twenty miles above the modern Hilleh, the town where all travellers land who come up the Euphrates from Baſra, and whence they have a journey of only three or four days[27] acroſs Meſopotamia to Bagdat. The remains of this capital are not ſo obliterated as ſome travellers would make us believe; they are, however, mountains of rubbiſh[28] rather than ruins, with caverns and hollow ground extending over a ſpace of fifteen or ſixteen miles; while there is hardly a town, a village, or a building within many leagues of its neighbourhood, which does not exhibit the bricks plundered[29] from this once magnificent metropolis of the Eaſt.

At Babylon, Alexander found part of his fleet, which had proceeded up the Euphrates while he was conducting the other part

[26] It was not the temple or tomb of Belus, according to Strabo, but a pyramid of brick, a ſtadium in height, and a ſtadium ſquare at its baſe. Ten thouſand men were employed for two months, but the death of the king put a ſtop to the progreſs of the work. Lib. xvi. p. 738.

[27] It is little more than fifty miles. Ives.

The boat which carries diſpatches is only ten days between Baſra and Hilleh. The ordinary paſſage about twenty-one days. Niebuhr. Voyage, vol. ii. p. 197. et ſeq. The tide ſerves to Ardsje, ſeventy miles above Khorna, p. 198. *i. e.* fourteen German miles.

[28] Niebuhr trod the ground of Babylon almoſt without knowing it; he mentions hollow tumuli for three or four miles, and ſome trees ſtill growing there not natives of Babylonia; vol. ii. p. 235, 236. Hilleh is in lat. 32° 28′ 30″. Babylon near twenty miles to the north. See P. della Vallé, tom. ii. p. 250. Hilleh is fifty miles from Bagdat by common eſtimation, but I find it by a combination of routes fifty-five, in the late Mr. Howe's papers, communicated to me by the Biſhop of Rocheſter.

[29] A Caravanſerai at Hilleh was built within theſe few years with bricks from Babylon, about the thickneſs of four's, but a foot ſquare, and very well baked. Niebuhr, p. 235. The reaſon why there are ſo few remains of Babylon, is, that the ordinary buildings conſiſted of bricks baked in the ſun. The bricks of the walls and public buildings have been conveyed to other towns.

up

up the Tigris; and, by the language of Arrian, it ſhould appear that Nearchus[30] had taken charge of this diviſion. Hither alſo had been brought from Phœnicia ſeven-and-forty veſſels, which had been taken to pieces, and ſo conveyed overland to Thapſacus. Two of theſe were of five banks, three of four, twelve of three, and thirty rowed with fifteen oars on a ſide. Others likewiſe were ordered to be built upon the ſpot, of cypreſs, the only wood which Babylonia afforded; while mariners were collected from Phœnicia, and a dock was directed to be cut, capable of containing a thouſand veſſels, with buildings and arſenals in proportion to the eſtabliſhment. To effect this deſign, Mikkalus had been ſent down to Phœnicia with five[31] hundred talents, and a commiſſion to take all mariners into pay, or to buy ſlaves who had been trained to the oar.

Extenſive as theſe preparations may ſeem, they were not too large for the deſigns of Alexander; he had conceived the idea of conquering Arabia[32], and coloniſing both ſides of the Perſian Gulph.

[30] Κατέλαβε δὲ ἐν Βαβυλῶνι τὸ ναυτικὸν τὸ μὲν κατὰ τὸν Εὐφράτην ποταμὸν ἀναπεπλευκὸς ἀπὸ θαλάσσης τῆς Περσικῆς ὅ, τι περ σὺν Νεάρχῳ ἦν. Arr. lib. vii. p. 299. This does not amount to proof.

[31] One hundred and ſix thouſand eight hundred and thirty pounds.

[32] An immenſe country without cities, property, or cultivation, deſerts without water, and an enemy always flying and hovering at the ſame time, render the conqueſt of Arabia almoſt impracticable: but their armies are not formidable in the field; the feuds of their tribes, all independent by nature and habit, prevent coalition: and no point of union has yet been found, either in ancient times or modern, ſufficient to bring a numerous body to act in concert, except during the warmth of Mahometiſm, and in the three or four firſt centuries after its propagation. Weak as the Turkiſh government is, the Paſhas of Bagdat, Baſra, Aleppo, &c. if ſoldiers, never heſitate to meet them in the field, or, if politicians, never fail to divide tribe from tribe, or family from family. The celebrated Ahmed, Paſha of Bagdat, employed arms, money, or treachery, as beſt ſuited the moment, and was maſter of all the Arabs round his Paſhalic. Whether Yemen, which has both cities and cultivation, is exempt from conqueſt, is ſtill problematical. The Abyſſinians ſucceeded; Ælius Gallus was repulſed.

The conqueſt, perhaps, might have been as precarious as all other attempts which have been made againſt that ſingular nation; but a fleet on the Euphrates in the ſummer, while the ſtream [33] is full, and another on the gulph, might have reſtrained the piracies and incurſions of their plundering tribes; and in the field they have never been formidable, except during the ſhort period that fanaticiſm enabled them to act in concert.

It [34] was either with a view to this expedition [35], or, as the hiſtorians rather intimate with a deſign of re-eſtabliſhing the canals, and benefiting the country by irrigation, that he now undertook a voyage down the Euphrates to Pallacopas. A voyage not without its difficulties; but they are ſuch as the reſearches of d'Anville, and the viſit paid by Niebuhr to the ſpot, enable us to remove. In the neighbourhood of Babylon, there are ſtill the remains of two lakes, more celebrated by the names of Ali and his ſon Hoſein than by any appellation of their own. The upper lake lies nearly on the parallel of Babylon; and at its northern extremity ſtands the

[33] Gallies of five banks of oars, ſuch as thoſe juſt mentioned, could never have been employed on the Euphrates. They might have been floated down during the increaſe of the river, but muſt have been intended for ſervice either in the gulph, or to attend the army on the propoſed expedition to Arabia. They could hardly have been uſeful to Nearchus, in his circumnavigation to the Red Sea.

[34] Gronovius, in a very long and angry diſſertation, defends the ſenſe which Vulcanius has given to this paſſage of Arrian, in oppoſition to the perverſion of it by Iſaac Voſſius; and Voſſius ſeems to deſerve every reproof, ſhort of the ſcurrility of his antagoniſt. The criticiſm of Gronovius on the word ἀποστροφὴ, in which he proves it to mean the turning of the water back again from the canal into the channel of the river, removes all the real obſcurity which enveloped this paſſage. The diſſertation accompanies Gronovius's edition of Arrian.

[35] Gronovius, with great vehemence, rejects all conſideration of Arabia, or Arabians, from the account; but there is ſome intimation in Arrian, that the city built by Alexander near the lake had a reſpect to this nation; and Strabo, p. 741, mentions it in expreſs terms. Strabo does not notice Pallacopas, but only the voyage and the clearing of the foſſes.

town

town of Kerbelai[36], containing Meſchid Hoſein, or the tomb of Hoſein [37], grandſon of Mahomet. From the ſouthern extremity of this lake to the northern point of the lower, or Bahr Nedsjef, the diſtance is about five-and-twenty miles, with Meſchid Ali a little to the eaſt. Kufa, where Ali was murdered, is not more than ſix miles from this ſpot. It ſtood in a ſouth-eaſt direction between Bahr Nedsjef and the Euphrates; but is now totally ruined [38], and without inhabitants. It is this lower lake into which the Euphrates was diverted by the cut at Pallacopas, in the ſeaſon of its inundation; and the opening or cloſing of this canal was committed to the ſatrap of Babylon, as a part of his office. In a tract like that on both ſides of the Euphrates, where all is deſert that cannot be watered, and every ſpot is fertile that can be flooded or drained at the proper ſeaſon, this office muſt have ever been of the higheſt importance. While Babylon was the capital of the Eaſt, the controul of the waters invigorated all the contiguous diſtricts; but when the Perſian conquerors dwelt on the other ſide of the

[36] Hoſein was killed at Kerbelai. The beautiful Arabian narrative of his death in Ockley almoſt makes amends for the deficiency of hiſtoric matter in this and almoſt every other Oriental work. See Ockley, vol. ii. p. 210. et ſeq. Meſchid means the tomb of Ali, Hoſein, &c.

It is the death of Hoſein which gave riſe to one of the moſt celebrated faſts of the Perſians, and the murder of this family, which makes the diſtinction between the Schiites and Sonnites, the two great ſects of Mahometiſm. The Perſians curſe Omar Abubecr and Ommawiah. Nadir Shah, notwithſtanding his attempt to introduce the Sonnite tenets into Perſia, adorned theſe two Meſchids of the Schiites at the expence (as Niebuhr ſays) of 66,666 German crowns for the roof only of Meſchid Ali, and 13,333 for the ſervice of Meſchid Hoſein; and yet neither of theſe Meſchids is in his own kingdom, but both under the Turkiſh government. See Niebuhr; vol. ii. p. 206. Amſt. edit.

[37] Meſchid Hoſein, or Kerbelai, is five German miles from Hilleh and five from Meſchid Ali. Niebuhr, vol. ii. p. 217. The canal from the Euphrates is ſtill preſerved.

[38] Niebuhr mentions a dry canal at Kufa, (Dsjarré Zaade,) which would anſwer very well to the cut of Paliacopas, as I wiſh to fix it. Niebuhr himſelf calls it Pallacopas, vol. ii. p. 183.

Tigris,

Tigris, at Ecbatana, Suſa, or Perſepolis, as the due attention was diſcontinued, Meſopotamia, Chaldæa, and the capital declined together. The Parthian dynaſty encouraged the increaſe of a deſert between their own and the Roman frontier, and, in the latter viciſſitudes of power, deſpotiſm and neglect have completed what policy might have commenced. Still it happened in every age, and under every government, that the neglect was not univerſal: the grand canals, it is true, have failed; but a partial diſtribution of the waters has conſtantly been preſerved; and, even under the deſolating empire of the Turks, is to this hour an object of comparative [39] importance.

If Alexander, then, had fixed upon Babylon for the future capital of his empire, (and here the ſovereigns of the Eaſt ever ought to have fixed, if they had not rather wiſhed to ſhrink from their European frontier, than to maintain it,) the firſt ſtep neceſſary was to reſtore the country round it to the ſtate it had enjoyed in its primitive ſplendour under the Babylonian monarchy. This had been effected by managing the ſuperfluous waters of the Euphrates, by withholding them at one ſeaſon and diſpenſing them at another, and by making the abundance of the ſummer ſubſervient to the deficiency of the winter.

To theſe views we may attribute the expedition to Pallacopas, which was a canal iſſuing into a lake or marſh on the Arabian ſide of the river, fifty miles below Babylon. This lake is the Bahr

[39] While Ives was on his paſſage up, he met a Paſha coming down, with commiſſion to direct the places where the bank was to be opened, or the outlets cloſed, p. 255. This is ſtill an office of dignity, for this Paſha was a commander of 30,000 men; and as we may conclude that under the Turkiſh government, every drop of water is paid for, though the ſervice will be performed badly, it will ſtill be performed.

Nedsjef of Niebuhr, the Rahemah of d'Anville; it is now dry, in the winter ſeaſon at leaſt wholly, for Niebuhr[40] ſeems almoſt to have paſſed through the centre of it, and found nothing like a lake, though ſeveral cuts and channels now totally neglected[41]: if the water ever enters them at the height of the increaſe, it is not from the attention of the government, but from the natural level of the ground, and from the remains of ancient induſtry, policy, and diſcernment. Niebuhr is of opinion, that a canal ran parallel with the Euphrates from Hit, above Babylon, through the whole length of the deſert, till it iſſued at the Khore Abdillah into the Gulph of Perſia. I have already ſubſcribed to this opinion; and though proof is wanting to identify the continuity of this channel through its whole extent, yet it is hardly poſſible to follow the march of armies, and the route of travellers in any age, without finding ſomething to confirm this idea. From a view of the two lakes at Meſchid Hoſein and Meſchid Ali, there is every reaſon to ſuppoſe that there was formerly a communication between them; and from Meſchid Ali, or Bahr Nedsjef, to the ſea, the exiſtence of the channel is indubitable[42]. One proof of this is ſtill exiſting, for no-

[40] Niebuhr landed at Mäſchwira, on the weſtern bank, a little above Lemloon, and went by land to Meſchid Ali. He muſt either have gone along the bed of the ſea, or have ſeen it, if it exiſted. He was here in December. Vol. ii. p. 183. P. 209, he ſays, the lake was dry. Another name he mentions, El-Buheire.

[41] Djarré Zaade.

[42] Arrian's teſtimony is expreſs. Ἐκ δὲ τοῦ, ἐς θάλασσαν κατὰ πολλά τι ἢ μάλιστα ἀφανῆ ῥύματα ἐκδίδωσι. Lib. 7. p. 303.

The reaſon why theſe mouths were undiſcoverable [ἀφανῆ] to Arrian, was, becauſe he had conceived the mouth of the Euphrates to be where we now find the Khore Abdillah; and when we read in Pliny that the ſtream no longer flowed through this khore into the ſea, becauſe the inhabitants of Orchoe had ſtopped its courſe, we ought to conclude, that, between the age of Alexander and Pliny, the Arabs of the deſert in the neighbourhood of the Bahr Nedsjef had diverted its waters in the time of the inundation, to irrigate their own lands, and conſequently exhauſted them inſtead of permitting them to follow their former courſe to the Khore Abdillah. If d'Anville's ſuppoſition were true, that there was another derivation from the Khore Abdillah to Bahrain, the extent of Niebuhr's canal would be increaſed to eight hundred miles.

traveller,

traveller paſſes the great deſert between Baſra and Aleppo, without encountering the remains of towns[43], buildings, and traces of habitation. Theſe relics are hardly Arabian, for it is not the country where the Arabs live in towns; they are probably Chaldean, Syrian, or Macedonian, they muſt all have poſſeſſed water as the primary means of exiſtence, and they have ceaſed to exiſt, becauſe the Euphrates has ceaſed to convey to them the means[44] of fertiliſing the deſert.

At what period we are to fix the failure of water in the two lakes is uncertain; neither have I hitherto found the means of inveſtigating whether they are yet abſolutely dry in ſummer. There is, however, ſtill an aquæduct[45] to Kerbelai, and d'Anville marks two canals running into the Bahr Nedsjef, one at each extremity; the lower one he conſiders as Pallacopas, and the diſtance of fifty miles from Babylon correſponds better with this than that which he calls the Nilus, and brings in at the northern angle; but there is reſpectable authority to appeal to, that the higher one[46] is more ſuitable to the circumſtances of the navigation; for it is evident that Alexander did not return out of the lake by the ſame channel that he entered it. Arrian mentions, that upon his return he ſteered his own veſſel, with Babylon on his *left*: this cannot be true, if he

[43] Niebuhr, vol. ii. p. 307.

[44] Some ſprings or pools may have ſupported a few ſcattered villages, and ſome ſources may have maintained a Palmyra: but the few waters found in the deſert are uſually brackiſh, as the ſoil is ſalt.

[45] Mentioned by Niebuhr, and Ockley calls it the river of Kerbelai. Hoſein had been cut off from this water, in order to reduce him by thirſt; but he died with arms in his hand, like a true deſcendant of the prophet. Ockley, vol. ii. p. 222.

[46] The canal into the upper part of the lake, d'Anville calls Nilus; it paſſes by Ebn-Hubeira, and the lake itſelf ſometimes takes that name. This is the Pallacopas of Niebuhr, and with great reaſon; for Al-Edriſi ſays, p. 204, "A caſtello Ebn-Hobaira profundit ſeſe Euſrates in univerſam ditionem Kufæ, reſiduis ejus aquis in lacus influentibus." No character can ſuit Pallacopas better than this. Mr. Howe's Papers.

entered

entered at the bottom, and ſailed north; but if we ſuppoſe him to enter from the north, to ſail ſouthward, and then come out at the lower end, this courſe brings him very nearly to the marſhes of Lemloon, in which Niebuhr[47] ſuppoſes him to be involved, and where all the peculiarities attendant upon his ſituation naturally take place.

But the immediate object of this expedition was a ſurvey of the canal itſelf; it ſeems to have been a work of the Babylonian kings, and to have been neglected by the Perſian ſovereigns after the Conqueſt. It had been cut in a part of the bank where the ſoil was ſoft, yielding, and oozy; the difficulty, therefore, was enhanced, when the ſeaſon arrived for cloſing it, and the ſatrap of Babylon, whoſe duty it was, employed thirty thouſand men for three months before the ſtream could be reſtored to its courſe, and the mouth of the canal ſecured. By a ſurvey of the ground it appeared, that at the diſtance of two miles lower down, the bank was firmer and the ſoil a rock, if the opening were made here, and a channel carried from this point into the original cut, it appeared eaſy to effect the ſtoppage of the waters when requiſite, as the ſolidity of the bank would hinder the ravages[48] of the inundation in the firſt inſtance, and

[47] Niebuhr, vol. ii. p. 202. Ives, p. 251. Ives himſelf loſt his way in the marſh of Lemloon, p. 255. The river, he ſays, ſtill overflows a great way into the deſert, p. 251. Banks to confine it, p. 258.

[48] The rapidity of the Tigris is noticed by all travellers, and its name derived from that quality by the Greeks. Pietro della Vallé thinks the Euphrates ſwifter, which proves the violence of both. Coſmas Indicopleuſtes has a pleaſant ſolution of this; for he aſſerts that the north of *his* plane of the earth is higher than the ſouth, which is the reaſon that the Nile flows ſo ſlowly *up hill!* while the Tigris and Euphrates run rapidly *down hill* to the ſouth. All that Coſmas ſaw he reports truly, though ignorantly; but he ſaw little except Abyſſinia, and was never beyond the ſtraits of Babel-Mandeb. (See p. 132. and 337.) It is a pity that his hypotheſis and his theology had not periſhed, and his topograghy been preſerved; the reverſe unfortunately is the truth.

and afford a foundation for the works which were to obſtruct it, after the increaſe of the river was paſſed.

Directions to this purpoſe Alexander gave on the ſpot; he then entered the canal, ſteering his own galley, and continued his ſurvey through the whole extent of the lake. On the Arabian ſide he ordered a city to be built, which he intended manifeſtly as a frontier to Babylon in this quarter, or as a place of arms if he ſhould commence his operations againſt the Arabians in this direction. D'Anville has placed this Alexandria at the northern point of the lake, at no great diſtance from Meſchid Ali; but, ſo far as may be collected from Arrian, we ſhould rather have looked for it at the oppoſite extremity; for there is nothing to make us ſuppoſe he returned out of the lake by the ſame paſſage he entered it; neither is it poſſible, if, as Arrian aſſerts, he ſailed with Babylon on his left. On the contrary, if we ſubſcribe to Niebuhr's opinion, and carry him into the marſhes of Lemloon [49], he had actually deviated from his courſe,

truth. See Coſmas, p. 133. edit. Montfaucon.

There is a very odd connexion between the Chriſtian Coſmas and the Mahometan Al-Edriſi (if he was a Mahometan). See Zocotora, p. 178. and the account of Chriſtians ſent there by the Ptolemies.

The Euphrates riſes twelve feet perpendicular. The difference of its breadth at Bir is from 630 yards to 214. Pocock, p. 164. Howe's Papers. It riſes ſometimes in march, but the ſeaſon is uncertain: it is always low in September.

[49] If the authority of Diodorus has any weight, he accords fully with the idea of Alexander's wandering at Lemloon rather than in the Bahr Nedsjef; for he ſays, the fleet loſt its courſe for three days and three nights. This could hardly happen in the Bahr Nedsjef, which is not fifty miles in extent Vol. ii. p. 252.

Texeira makes it thirty-five or forty leagues in circuit, and ſix broad, as I learn from Mr. Howe's Papers. If he ſaw it himſelf, it is a proof that its exiſtence has ceaſed between his age and Niebuhr's: it ſeems alſo to have been a lake in Pietro della Vallé's time; on his route from Baſra to Aleppo he notices marſhes on his left, nearly in this tract. I am not convinced but that it is ſtill a lake, or at leaſt a marſh in ſummer, though Niebuhr, who was there in winter, ſaw it not. Tavernier ſeems to have found the canal dried up. M. Howe.

and

and Babylon was on his left; and this marſh ſtill continues very intricate to navigate, full of iſlands, and theſe iſlands ſtill decorated with tombs [50]. In winter, there are a variety of channels [51] very narrow, where even the boats of Baſra hardly find water; and in ſummer the courſe of the ſtream is ſo indiſtinct, that the men who draw the veſſels are oftener in the water than on the bank: all theſe circumſtances are correſpondent to the difficulties Alexander encountered; and, if we may aſſume this ſuppoſition, he had actually loſt his courſe and was going down the river, till the native pilots put him into the proper channel, and conducted him back again to Babylon.

The ſituation of Pallacopas is perhaps ſtill capable of diſcovery, for the banks of the Euphrates are no where, as far as my information goes, noticed as conſiſting of ſtony ground, or rock; if, therefore, an appearance of this quality ſhould occur, it may ſtill be ſingular enough to attract the attention of our India travellers, ſome of whom come up every year from Baſra to Hilleh and Bagdat, and the extent of country where they ſhould direct their obſervations cannot exceed twenty or thirty miles, which muſt be on the left of their courſe, as they are going up between Rumahieh and Aſſca.

[50] It is a ſuperſtition of the oldeſt date to build tombs on iſlands in rivers, or in the ſea, or in ſequeſtered ſpots in the deſert. There is, perhaps, hardly the Meſchid of an Imam now, where there has not formerly been the tomb, the temple, or the ſhrine of ſome ancient hero, king, or fabulous deity. It is a profitable ſuperſtition to the natives, becauſe religious viſitants are attracted to deſert ſpots, where there is no trade to allure merchants; and, conſequently, though the religion of the Eaſt has changed, the ſuperſtition has continued.

Ives mentions tombs of Imams, or ſaints, as ſtill viſited in the neighbourhood of Lemloon. Haleb, Hoſein, Imam Kaſai.

Lemloon lies in lat. 31° 40′, better than half way between Baſra and Hilléh. See Ives, p. 256. et ſeq. The whole is a low wet country, the ſides of the river full of ſedge, and very diſtreſſing to the trackers; p. 257. See alſo Howel's Journal, p. 48.

[51] See Niebuhr, p. 198. ut ſupra.

This is the laſt public ſervice in which Alexander was engaged; his death took place not long after his return to Babylon, when all his plans of government, policy, diſcovery, or conqueſt, were annihilated by the diſſenſions of the great officers, which commenced upon his deceaſe.

With his deſigns of conqueſt this work is not concerned; but at the head of his native forces, which had conſtantly been recruited, and poſſeſſed of treaſures ſufficient to allure the laſt man out of Macedonia and Greece itſelf, with the acceſſion of the Aſiatic levies which he was forming and diſciplining on his own model, with the attachment of all his followers to his good fortune and his perſon, with the reputation he had acquired and deſerved, of being the greateſt captain of his age, wherever he had directed his arms the invaſion muſt have been formidable, and his ſucceſs far from dubious.

As to the omens[52] alſo that preceded his departure, or the immediate cauſe of his death, I ſhall be ſilent; one thing only ſeems evident, that the poiſoned cup is a fiction, his diary, ſtill preſerved, which records the progreſs of his diſeaſe, proves the gradual courſe of a fever rather than the ravages[53] of poiſon; the violence of his paſſions, the perpetual application of his mind, the conſtant exertion of his faculties, and the exceſſes of the table, are fully ſufficient to furniſh cauſes of diſſolution, without having recourſe to treaſon and conſpiracy.

[52] No man of importance met his laſt fate, according to the ancient hiſtorians, without omens; and this ſuperſtition is ſo prevalent, that hardly a family at the preſent hour is without omens in regard to ſome favourite member or other. I neither ridicule or believe them; but muſt obſerve, that ſacred hiſtory is as ſparing upon this ſubject as profane hiſtory is profuſe.

[53] Plutarch, who generally believes enough, does not believe the ſtory of this poiſoned cup. He ſays it was not heard of till ſome years after, when Olympias wiſhed to render the family of Antipater odious.

But while I decline all inquiry on theſe ſubjects, I muſt glean the few remaining facts that characteriſe the diſpoſition of this extraordinary man to the objects of diſcovery, as part of the ſcheme of empire which he had conceived, and which he never abandoned but with his lateſt breath.

The remains of the fleet which Nearchus had brought up the Euphrates, and the veſſels which had been conveyed overland to Thapſacus, were ſtill at Babylon, the proſecution of the diſcovery commenced at the Indus was ſtill one of the principal deſigns in meditation; and the extenſion of the navigation round the continent of Arabia into the Red Sea was already anticipated. To prepare the way for Nearchus, three ſingle veſſels had been diſpatched at different times down the Arabian ſide of the Gulph of Perſia, and the report of their commanders had probably given better information to Alexander concerning this obſcure coaſt, than our modern charts furniſh at the preſent[54] moment.

The firſt of theſe veſſels had been commanded by Archias, who proceeded no farther than Tylos or Bahr-ein, the centre of the modern pearl-fiſhery. Archias reported that he had found two iſlands, one at the diſtance of an hundred and twenty ſtadia from the mouth of the Euphrates [the Khore Abdillah], which was ſacred to Diana[55], where a breed of goats and ſheep was preſerved, and

[54] See d'Anville's chart of the Gulph of Perſia. Niebuhr has ſince ſupplied a map of Oman, but from oral information only. Alexander doubtleſs received a better account from his officers than the hiſtorians have preſerved. He had eſtabliſhed an office for theſe records, and the accounts they contained were not generally divulged.

[55] The perpetual error of the Greek hiſtorians, in attributing the deities of their own country to the ſuperſtitions of Aſia, is as conſpicuous in Arrian as in Herodotus and Xenophon. We muſt ſuppoſe that Archias found on this iſland ſome rites ſimilar to thoſe appropriate to the Grecian Diana, and adopted her name inſtead of inquiring for that of the Parſee or Arabian mythology. Thus Cæſar attributes Mercury, Mars, &c. to the Celts, now known to be Woden and Thor. Lib. vi. c. 17

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never moleſted but for the purpoſe of procuring victims for the deity. To this iſland Alexander gave the name of Icarus, and it ought to be one of thoſe at the bay of Grane, but the diſtance by no means correſponds; for an hundred and twenty of Arrian's ſtadia are only ſeven miles and a half, while the real diſtance is near thirty. Equally diſproportionate is the poſition aſſigned to Tylos, the other iſland ſeen by Archias, which is ſtated to be at the diſtance of a day and night's ſail in a light veſſel, and with a fair wind. This, indeed, is a vague eſtimate; but ancient geographers conſider a day's ſail as five hundred Olympian ſtadia, and if we double this we obtain only a thouſand of ſuch ſtadia, or an hundred and twenty-five miles, while the real diſtance is upwards of two hundred: but that theſe are the two iſlands ſeen by Archias, notwithſtanding the defect of the eſtimate, can hardly be doubted; for Tylos is deſcribed as large, well-wooded [56], and productive, circumſtances which ſuit no other iſland on the weſtern ſide of the gulph but Bahr-ein.

A ſecond veſſel had been ſent out under the command of Androſthenes, who is ſaid to have proceeded ſome way round the coaſt of Arabia; but Hiero of Soli extended his courſe far beyond the two former, for he appears to have doubled Cape Muſſendon, or Makæ, ſeen by Nearchus and Oneſicritus upon their approach to the Gulph of Perſia. The orders he had received from Alexander were, to circumnavigate Arabia, to go up the Red Sea, and make the bay of Heroopolis [57], on the Egyptian coaſt; by which is implied,

[56] Whether it has now wood I cannot diſcover.

[57] Suez is ſuppoſed to occupy nearly the ſite of Arſinoe, built at the weſtern extremity of the Gulph of Arabia by the Ptolemies, at a later period. The actual bay was ſtyled Klyſma, or Kluſma, from which the Orientals ſtill call this ſea, the Sea of Kolſum, by a tranſpoſition congenial to all their corruptions of foreign terms. Heroopolis was inland from Suez, and capital of a Nome from which the ſea of Suez was named the Bay of Heroopolis;

plied, that he was actually to go to Suez, the extreme point of the Red Sea neareſt Alexandria. Theſe orders develope the whole plan of communication which Alexander had matured in his mind, and which, if he had lived a few months longer, he might have had the ſatisfaction to ſee completed. Hiero, however, was not able to execute his orders; but he ſeems to have gone down the coaſt below Maſkat, and to have come in ſight of Cape Raſ-el-Had [58], the Syagros of the ancients: for his report when he returned was, that he had advanced to a great promontory which he did not dare to double, and that the continent of Arabia was of much greater extent than had been conceived.

Such were the previous ſteps taken to enſure the ſucceſs of Nearchus; theſe veſſels had ſailed at different times in the interval ſince Alexander's firſt arrival at Babylon; they were all gallies of only thirty oars, and little adapted to the ſervice in which they were employed. What was effected muſt be attributed to the ſkill and courage of the officers [59], who had poſſibly ſailed with Nearchus; and, what they could not effect, to the deficiency of their veſſels, and the ſtate of the ſcience in that age.

At the time the expedition was fruſtrated by the death of Alexander, Nearchus had received his orders to take the command of

polis; one proof that no city had been yet built like Suez at the extreme angle; that no trade had hitherto been carried up ſo high in the Red Sea; and that Alexander viewed this point of communication with Alexandria with the eye of a maſter. The ſea of Suez is not very practicable, and the Ptolemies afterwards fixed upon Myos Hormus, from which point there was a caravan road to Ghinna on the Nile, which Bruce travelled, and has deſcribed moſt admirably with all that relates to Myos Hormus, Coſſeir, Portus Albus, and Orneon. There is a beautiful map of the Red Sea by Mr. de la Rochette.

[58] The Raſſelgate of our charts.

[59] Archias only is known to be one of Nearchus's officers. Nearchus has not done juſtice to his followers, or, if he had done, Arrian has neglected them. Androſthenes is conſidered as an officer under Nearchus by Plutarch.

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the fleet; and, if he had profecuted the object of his commiſſion, he muſt have fallen down the Euphrates before the ſeaſon that the increaſe of the river is paſſed: it was, perhaps, his intention to have waited at the mouth of the Tigris, or made his paſſage good to Makæ during the latter part of the ſummer; and the experience he had obtained would naturally ſuggeſt to him the expectation of the monſoon from the north-eaſt in November and December. With the aſſiſtance of this he might have hoped to get round the coaſt of Arabia, as he had already performed his voyage from the Indus, but the circumſtances are far different; the coaſt of Arabia is highly dangerous from Muſſendon to Raſ-el-Had; the winds fluctuate near ſhore; and, except Maſkat, there is hardly an inlet which a veſſel can enter without hazard of ſhipwreck, when the wind is boiſterous. From this experiment, Nearchus was relieved by the death of his maſter: but it is impoſſible to convey a clearer idea of the deſigns which occupied the mind of Alexander in his laſt moments, than the language of his own diary will afford. The extract from it is preſerved both by Plutarch and Arrian, and does not materially differ in the account of the two reporters, except that Arrian has preſerved more notices of the fleet[60], to which he was perhaps peculiarly attentive, as being more appropriate to the nature of his work. The diary itſelf is ſubjoined, with ſome ſmall degree of licence, in order to harmoniſe the accounts of the two different authors.

It appears from Plutarch[61], that Alexander had given a ſplendid entertainment to Nearchus and his officers, two days preceding the account contained in the diary, which commences on the 28th of

[60] The army was to move on the fourth day, the fleet on the fifth.

[61] Plutarc. in Alexandro, p. 706. Arrian, lib. vii. p. 308. The feaſt might be only one day previous to the 28th.

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the Macedonian month Dæſius, in the year 324 A. C. From the circumſtances which follow, it is evident that Alexander was on the eve of commencing his expedition againſt Arabia, and that Nearchus with the fleet was to accompany this expedition, and to coaſt the Arabian ſhore down the Gulph of Perſia, to that point at leaſt where his own circumnavigation was to commence. If, therefore, we can ſuppoſe the army to have been ſucceſsful, it is not impoſſible that a plan had been formed of connecting the operations both by ſea and land round the whole coaſt, into the Gulph of Arabia. Impracticable as this may be deemed, the deſign is ſimilar to that which had been imagined on the coaſt of the Mekran, and the execution of which had been fruſtrated only by the ſame diſaſters that were likely to have occurred on the preſent occaſion.

At the concluſion of the entertainment, when Alexander was returning to the palace, he was met by Medius [62], who had been feaſting a party of the officers, and now requeſted the favour of the king's company to do honour to the banquet. That night and the following day were ſpent in feſtivity, when it is not extraordinary that ſome ſymptoms of fever were the conſequence of the exceſs.

The diary commences here, and contains the following particulars:

Dæſius.

18th. The king bathed, and, finding the fever upon the increaſe, ſlept at the bathing-houſe.

[The ſleeping at the bathing-houſe is explained by Arrian, who ſtates that he was conveyed on his bed to the river ſide, and carried over to a garden-houſe on the oppoſite ſhore.]

[62] This is the account from Plutarch; and Arrian no otherwiſe diſagrees than by ſoftening the exceſs a little, and dividing it into two meetings inſtead of one continued.

Dæſius.

On this day, alſo, orders were iſſued for the land forces to be ready to march on the 22d, and the fleet to be prepared to move on the 23d.

19th. The king bathed; went from the bath to his chamber; paſſed the day at dice[63] with Medius; bathed again in the evening; attended the ſacrifices in a litter[64]; took nouriſhment[65] in the evening; the fever increaſed, and the night was paſſed in great perturbation.

Orders were iſſued for the officers to attend on the next morning.

20th. The king bathed; attended the ſacrifices as before; converſed while in the bath with Nearchus, upon his voyage from India, and gave him freſh orders to be ready on the 23d.

21ſt. The king bathed; attended the ſacrifices in the morning; found no abatement of the diſorder; tranſacted buſineſs with the officers; gave directions about the fleet; bathed again in the evening; the fever ſtill increaſed.

22d. The king removed into an apartment near the bath; attended the ſacrifices; the fever now ran very high, and oppreſſed him much; he nevertheleſs ordered the principal officers to attend, and repeated his orders in regard to the fleet.

23d. The king was conveyed to the ſacrifices with great difficulty; but iſſued freſh orders to the naval officers, and converſed about filling up the vacancies in the army.

[63] In converſation. Arrian.

[64] ἐπὶ κλίνης, on a bed or Lectica; a palanquin rather than a ſedan.

[65] Ate heartily, according to the tranſlator of Plutarch; but the author himſelf omits the adverb, and Arrian ſays, *ſparingly*; ὀλίγον ἐιπνῆσαι.

Dæſius.

Dæsius.

24th. The king was much more oppressed, and the fever much increased.

25th[66]. The king was now sinking fast under the disorder, but issued orders for the generals to attend in the palace, and the officers of rank[67] to be in waiting at the gate. He suffered still more towards the evening, and was conveyed back again over the river from the garden to the palace. Here he obtained a short repose; but, upon his awaking, when the generals were admitted, though he retained his senses, and knew them, he had lost the power of utterance.

26th. The fever had made a rapid progress all night, and continued without abating during the day.

27th. The soldiers now clamorously demanded to be admitted, wishing to see their sovereign once more, if he were alive; and, suspecting that he was dead, and his death concealed. They were suffered, therefore, to pass through the apartment in single[68] file without arms, and the king raised his head with difficulty, holding out his hand to them, but could not speak.

28th. In the evening the king expired.

This diary, without a comment, exhibits the attention of Alexander to the designs attributed to him in the preceding work better than any other language can express. It proves that he had entertained Nearchus only the day previous to his illness, and that the expedition of this officer was one of the principal objects

[66] Plutarch has an interval here from the 21st to the 24th; from τῇ δεκάτῃ φθίνοντος to ἑπτόμην.

[67] χιλιάρχας καὶ πεντακοσιάρχας, commanders of a thousand and five hundred.

[68] ἐν τοῖς χιτῶσι καθ' ἕνα πάντες.

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of his mind almoſt to the laſt moment that he had the power of ſpeech.

The date of his death is the only point which now remains to be fixed; and as perfect ſatisfaction does not occur upon this ſubject from conſulting the chronologers, it is more proper to ſtate the difficulties than to determine the queſtion authoritatively.

The year of his birth is fixed for Olympiad cvi. 1. anſwering to 356 A. C. in the archonſhip of Elpines[69]. His acceſſion to the throne, Olympiad cxi. 1. 336 A. C. in the archonſhip of Pythodorus. The day of his birth is aſſigned to the 26th of July by Dodwell; to Auguſt the 7th, by Scaliger: the day of his acceſſion is the 24th of September[70], according to Uſher; ſo that he was ſomewhat more than twenty years of age when he began to reign; and if his reign commenced in 336 A. C. the thirteenth year of his reign and the thirty-third of his life coincides with the year 324 A. C.

That he died in this year is eſtabliſhed by the conſent of Diodorus and Arrian; but Diodorus adds ſeven months, and Arrian eight, to the twelve years of his reign; and though theſe months do not encroach upon the Attic or Olympian year, which did not commence till Midſummer following, they evidently interfere with the calculation of Scaliger and Petavius, if they commence their year in January. This is the reaſon[71], I conclude, which induces Uſher and Blair to carry on the date of his death to the year 323 A. C. The chronology, indeed, of Diodorus is ſo perplexed, that having fixed the Voyage of Nearchus for 327 A. C. and brought Alexander

[69] See ſupra, b. i. p. 31.

[70] In Auguſt. Blair.

[71] And ſo Falkoner's Chronology, 1796, p. 168, 169.

to Suſa in 326 A. C. he is obliged to interpolate a year[72], to give a falſe archon, and repeat the ſame conſuls twice, a reproach which his learned commentator[73] is obliged to transfer to the tranſcribers, but which aroſe in fact from the hiſtorian having a year to fill up which he knew not where to find. It is, however, by this contrivance that he brings the date of Alexander's death to accord with the account of Arrian, or rather the authorities[74] which Arrian followed; ſo that both the hiſtorians agree on the year of the Olympiad cxiv. 1. or 324 before Chriſt, in the archonſhip of Hegeſias.

It is here that the addition of ſeven months by the one, and eight by the other, raiſes a difficulty which it is not eaſy to obviate.

Petavius has a diſſertation[75] expreſsly to ſolve this queſtion, which he does by ſuppoſing that Dæſius, in the time of Philip and Alexander, anſwered to Hecatombæon, though it was afterwards made to correſpond with Thargelion. Unfortunately, Hecatombæon is as little qualified to reſolve our doubts as Thargelion, for it commences in July, and if it is July 324 A. C. even the twelve years of Alexander are not complete. Petavius ſays, indeed, that he had finiſhed his twelfth year, and juſt taken the auſpices for the commencement of his thirteenth; but this could not be true, if his acceſſion was on the 24th of September, as Uſher aſſerts.

Uſher agrees with Petavius in ſuppoſing that Dæſius originally anſwered to Hecatombæon, and afterwards to Thargelion; but in

[72] Olympiad cxiii. 4.

[73] See Diodorus Weſſeling, vol. ii. p. 248. Note 9, in his Audaciæ Specimen, &c.

[74] Uſher agrees with Petavius.

[75] Vid. Diſſertationes, in fine, tom. ii. Petav.

his

his Ephemeris[76] he aſſigns the 1ſt of Daſius to the 25th of April: the 28th of Dæſius conſequently coreſponds with the 22d of May; and, as his date of Alexander's acceſſion is September 24th, it follows of courſe that his reign was twelve years complete on that day, in the year 324 A. C. and that the eight months extend to the end of the ſubſequent May in 323; this, therefore, is a calculation eaſily admiſſible, if Scaliger and Petavius had not fixed his deceaſe in 324: but perhaps the archonſhip of Hegeſias will enable us to reconcile the three chronologers; for the Attic year, Olympiad cxiv. 1. commences, according to Dodwell, on the 23d of July, and conſequently Hegeſias continued archon till that day. This ſtatement brings all the calculations ſo nearly to a conſiſtency, that one objection only remains, which is, that I cannot diſcover in any of the hiſtorians two winters after Alexander's return to Suſa: one is evident; that, in which he ſubdued the Koſſæi; but the year and five months afterwards, which he muſt have paſſed at Babylon and the neighbourhood, is not filled up by the tranſactions recorded, nor agreeably to the buſy ſpirit of Alexander.

If, after the reduction of the Koſſæi, he entered Babylon in the ſpring of 324 A. C. we have nothing to employ the remainder of that year but the viſit to Pallacopas, which muſt have taken place during the increaſe[77] of the Euphrates, that is, between May and July, for he could not enter the canal before the bank was cut; or if we fix his voyage to the ſeaſon of cloſing the Pallacopas, we cannot bring him there later than Auguſt, for in September the river is again below its banks. The account of his death ſucceeds this ſo im-

[76] De Anno Sol. Maced. p. 5 and 6.

[77] The inundation ſeldom takes place ſo early as May. Ives, p. 251.

mediately,

mediately, that, if there was an interval of eight or nine months, it does not appear. The opening of a campaign, indeed, ſuits better with the ſpring following, as Uſher fixes it; and that he was going to ſet out on an expedition to Arabia appears from the orders iſſued to the troops and the fleet during his illneſs. If this conſideration, therefore, appears reaſonable, we may fix the death of Alexander ſtill in Olympiad cxiv. 1. and the archonſhip of Hegeſias, notwithſtanding it will appear from our different commencement of the year to be the 22d of May, in the year 323 before the Chriſtian æra. The difficulty of unravelling the intricacies of the Greek calendar, and the digeſtion of Greek months muſt apologiſe for ſuch a degree of obſcurity as may ſtill remain upon this queſtion; and even an acknowledgment of ignorance may be pardonable, ſince it has been lately proved by the Choiſeuil Marble, that, after all the learned labours of Petavius and Corſini, the arrangement of the Attic months by Scaliger is finally confirmed.

ON THE

SITE OF OPIS.

ARRIAN has recorded no circumſtances which enable us to ſettle the poſition of Opis, we muſt therefore (if we ſuppoſe it to be the ſame city as the Opis viſited by the ten thouſand in their retreat) have recourſe to Xenophon [1], who furniſhes abundance of means for the reſolution of the queſtion; and that it is the ſame city, there can be little doubt; for there had been no revolution in Perſia to alter either its name or place in the interval of ſeventy-ſix [2] years, which occurs between the expedition of Cyrus and the viſit of the Macedonians. By the account of Xenophon, it appears to have riſen upon the decline of the ancient Aſſyrian cities on the Tigris, ſeveral of which he found deſerted; and it ſeems to have decayed in its turn [3], as Seleucia and Apamea, the creations of the Seleucidæ, roſe into eminence. It was only a village in the time of Strabo; and in the age of Ptolemy, when Cteſiphon was growing up into a capital, it had ſo far ſunk as not to be admitted into his catalogue.

The means of diſcovering the Site of Opis by the courſe of the Tigris, and its eaſtern bank, are obvious; for Xenophon places it on the Phyſcus, a ſtream which falls into the Tigris at the diſtance of twenty paraſangs, or ſixty Roman miles, from the place where the ten thouſand croſſed that river. The fixing of the paſſage, therefore, would give the poſition of the Phyſcus, or, if we can find the Phyſcus, we could diſcover the paſſage and the bridge of boats. The latter inveſtigation does not appear difficult; for between Bagdat and Moſul there are three ſtreams which fall into the Tigris on its eaſtern ſide, and no more. Theſe are

From BAGDAT.

Xenophon.	*D'Anville.*	*Tavernier.*	*Ptolemy.*	*Pliny.*
1. The Phyſcus.	Odorneh.	Odoine.	Gorgus.	Tornodotus.
2. The Zabatus.	Altoun Sou.	Little Zab.	Caprus.	
3. The Zathes.	Lycus.	Great Zab.	Leucus.	

[1] Xenophon, edit. Leunc. p. 277. et ſeq.

[2] Expedition of Cyrus, 401 A. C. twelfth year of Alexander, 325 A. C. Blair's Chronology.

[3] Ὥπις κώμη ἐμπορεῖον τῶν ἐν κύκλῳ τόπων. Strab. lib. xvi. p. 739.

Theſe

Theſe three rivers Tavernier notices in his paſſage from Moſul to Bagdat, which he performed by water in a kelek[4]; and the travelling Jeweller (as Gibbon ſtyles him), who always travelled with his eyes open, marks the mouth of the Odoine in the very place where the Phyſcus ought to be found. By meaſuring off ſixty Roman miles on d'Anville's map, we arrive at Bagdat, conſequently it is plain he intended to fix the paſſage and the bridge of boats at the ſite of that city, where it continues to the preſent hour. If, however, d'Anville ſhould be miſtaken (which is hardly the caſe), the means of correcting his error are eaſy. Many of our Engliſh gentlemen, in going to and returning from India, prefer the route by Hilleh, Bagdat, and Moſul, to the paſſage over the great deſert between Baſra and Aleppo. Any one of theſe who would deſcend the Tigris, from Moſul to Bagdat[5], in a kelek, may fix the mouth of the third river on his left, by obſervation; this muſt be the Odoine, or Phyſcus, and the diſtance between this and Bagdat is eaſy to obtain, as the latitude[6] of that capital is already ſufficiently eſtabliſhed.

By theſe obſervations, the eaſtern ſide of the Tigris is cleared of its difficulties; and if it can be ſhewn that the march of the ten thouſand on the weſtern ſide points to Bagdat, all our authorities coincide. To explain this it muſt be premiſed, that d'Anville's wall of Semiramis and Xenophon's Median wall cannot be the ſame. It is evident, indeed, that there was a wall of Semiramis terminating at Opis, for Strabo[7] twice mentions them together; but the march of the ten thouſand cannot be made from any point of this wall to Sittaké and the bridge. Their march, after paſſing the wall, was only twenty-ſix[8] miles to the Tigris; but if Opis is ſixty miles above Bagdat on the eaſtern ſide, the wall of Semiramis cannot be leſs on the weſtern; and conſequently this cannot be the rampart which Xenophon calls the Median Wall. This Median wall, however, did exiſt; it exiſts[9] in ruins at the preſent hour, and is ſeen by every traveller[10] as he approaches

4 A veſſel ſupported on the water by inflated ſkins, uſed on theſe rivers from the age of Xenophon to the preſent hour. See Tavernier, tom. i. liv. ii. p. 226. et ſeq.

5 The paſſage muſt be made by water to obtain this object, as the road between Bagdat and Moſul leaves the Tigris. Ives, when three days' journey from Bagdat, found a ſtream called Chiba Harpſic, which, he ſays, falls into the Tigris; this, by the diſtance, might be the Odoine, but Niebuhr carries it into the Diala. Strange, that a traveller ſhould not notice whether it flowed eaſt or weſt! This road goes by Yanka, Karajope, &c. Dr. Howel's Journal agrees with Ives.

6 Niebuhr, p. 239. 33° 20'. D'Anville differs only a few ſeconds.

7 Lib. ii. p. 80. Lib. xi. p. 592.

8 Eight paraſangs, fifteen ſtadia.

9 Ives went to viſit Nimrod's tower; it lies weſt by north, about nine miles from Bagdat. "We paſſed the "Tigris by the bridge of boats, and rode through Old "Bagdat, from whence, quite up to the tower, ruins of "buildings either wholly above, or ſomewhat under "ground, are ſtill to be ſeen, which can be no other "than the remains of the ancient Seleucia." This is perfect evidence for the remains of the Median wall, and, in the direction I give it, weſt by north: but Ives is miſtaken when he talks of Seleucia; he was cloſe to that city at Tahkti Khefra, which is ſouth-eaſt of Bagdat, not north-weſt. Old Bagdat, or the ruins he ſaw, might be the ruins of Sittaké; but Xenophon's uſage of Sittaké is dubious; the diſtrict called Sittakené is eaſt of the Tigris. Ives, p. 297. Tavernier, tom. i. p. 238.

10 Some of the public buildings at Bagdat conſiſt of the old Aſſyrian bricks from this wall, or the ruins of Sittaké.

Bagdat[11] on the road from Hilleh, extending for many miles on his left. Where it touched the Euphrates is not diſcoverable; certainly not at Babylon, in the direction aſſigned to it by de l'Iſle[12]; but, as I conjecture, at the very part where the Euphrates approaches neareſt to the Tigris, where the intervening ſpace is as nearly twenty-ſix miles as may be, agreeing exactly with the march of the twenty thouſand. I ſuppoſe them to have croſſed the Median wall cloſe to the Euphrates, and to have meaſured twenty-ſix[13] miles, in the direction of the wall, till it terminated at the Tigris, as it now does; and poſſibly at the very point where the modern bridge of Bagdat conſiſts of boats, as it has done in all ages.

Let us now refer to the field of Kynaxa, where Cyrus loſt his life. D'Anville places Kynaxa on a curvature of the Euphrates marked by the modern Hit or Het. There is every reaſon to ſuppoſe that in this poſition he is perfectly correct; and the reaſon for believing this is, becauſe the ten thouſand, on the firſt[14] march after the battle, moved with their face to the north, for Xenophon mentions expreſsly that the ſun roſe on their right; this direction, therefore, was neceſſary to bring them out of the curvature in which they were incloſed. At night they reached a knot of villages which ought to lie in the ſituation of d'Anville's Makepracté and the wall of Semiramis, where it touches the Euphrates; but of this wall Xenophon takes no notice. On the ſecond day they proceeded to other villages, where they found abundant proviſions for their ſupport. No diſtance is aſſigned to the march of either day; but it is evident, that on the ſecond the direction of their courſe muſt be different from that of the firſt, for they did not dare to quit the Euphrates, leaſt they ſhould fail in a ſupply of water; and that they kept the river on their right, and followed its winding to the ſouth-eaſt, is proved by their approach to Babylon, from which Xenophon ſays they were not far, when ſome days after they paſſed the Median wall.

At theſe villages the army halted twenty days, while a treaty was going on with Tiſſaphernes; when, after commencing their march again, they reached in three days the wall of Media. Xenophon has not aſſigned meaſures to any of theſe five days' march after the battle; but if we allot five paraſangs to each, it produces ſeventy-five miles Roman; a ſpace which brings them to the point where the Euphrates approaches neareſt to the Tigris,

11 By Texeira, as I learn from Mr. Howe's Papers.

12 De l'Iſle gives the ruins upon his map as they really appear, but directs the termination of the wall weſt to Babylon. I cannot trace it ſo far, and ſuppoſe it to have croſſed Meſopotamia at the narroweſt part. Map of William de l'Iſle, publiſhed by Joſeph Nicholas de l'Iſle, 1766. Kindly communicated by Mr. Jacob Bryant.

13 Strabo reckons 200 ſtadia, or twenty-five miles, at the wall of Semiramis. Did he confound the two walls? or did he confound the ſite?—if the latter, there was one wall only inſtead of two. See Strabo, lib. ii. p. 80.

14 There is a movement previous to this, but it is only towards Ariæus, and probably over the field of battle. The poſſibility of a miſtake in d'Anville can be founded only on an aſſertion of Xenophon's, that it is 300 miles from Kynaxa to Babylon: but Xenophon did not march the whole extent.

and makes the Median wall, if we place it here, ſeventy miles nearer Babylon than the wall of Semiramis, that is, ſixty miles inſtead of an hundred and thirty. The army, according to this ſtatement, ought to have croſſed the wall near, or cloſe to the Euphrates; and as we then find two days' march of four paraſangs each to Sittaké, and two miles from Sittaké to the Tigris, this gives twenty-ſix miles, following the direction of the wall to Bagdat; and this, at a point where d'Anville makes the ſpace between the two rivers leſs than thirty, and where Niebuhr [15] makes it only from eighteen to twenty.

By this proceſs, the movements of the army weſt of the Tigris point to Bagdat, as the meaſures from Opis end at the ſame city, taken on the eaſt. The bridge of boats would be as neceſſary for Sittaké in that age, as for Bagdat at the preſent day; and thirty-ſeven, the number of the boats mentioned by Xenophon, is a medium between the higheſt and loweſt ſtatement of thoſe employed at preſent, according to the ſeaſon of the year. From theſe deductions it is eaſy to conclude, that the paſſage of the ten thouſand was at Bagdat; but if not there, the ſpace for error is very ſhort. The wall proves, that it could not be higher up, and other circumſtances prove that it could not be lower down the ſtream than the mouth of the Diala; this confines it within the limits of ten or twelve miles, which it is impoſſible to exceed. The Diala falls in on the eaſt ſide of the Tigris between Bagdat and Cteſiphon, and the ſite [16] of Cteſiphon is fixed by two ruins at the diſtance of a quarter of a mile from each other, called Tahkti Kheſra [17], (the throne of Khoſroes,) and Soleiman Pac, or the tomb of Soleiman the Pure. Theſe ruins were viſited by Pietro [18] della Vallé and Ives, and Ives mentions expreſsly his paſſing the Diala both going [19] and returning. It is nearer, indeed, to Cteſiphon, but Cteſiphon is little more than ſixteen [20] miles from Bagdat, and conſequently the mouth of the Diala muſt be leſs. Now it has

15 Niebuhr ſays little more than ſix leagues. Vol. ii. p. 236. Voyage. Amſterd. edit.

16 Cteſiphon, the Tiſbon of the Orientals, was built on the eaſtern ſide of the Tigris, oppoſite to Seleucia, which was in Meſopotamia; it roſe under the Arſacidan dynaſty during the ſecond century. See Gibbon, vol. i. p. 211. And the remains of the two cities are ſtill called Al-Mod-ain, the double city; from Medhi, Midhi, or Modhi, a fortreſs, and ain or ein-ſo Bahr-ein, the *double* ſea.

17 The Aivan Kheſra of Pietro della Vallé, built of burnt bricks, 1400 paces long; middle aiſle 62 paces long, 33 wide. Ives gives a drawing of this building, p. 289. in which it has the appearance of Roman architecture; but ſuch it can hardly be; it is certainly not Oriental, but may have been a palace or temple built by the Seleucidæ, who might prefer a ſituation on the oppoſite ſide of the river to their capital, Seleucia. Ives ſays, the eaſt front is 300 feet, breadth of the arch 85, height 106, length of the arched room 150.

18 Pietro della Vallé, tom. ii. p. 258. He ſaw the Diala as large as the Tiber, ſlept at a village ſomewhat lower down, and proceeded next day to Soleiman Pac. A proof that there is ſome conſiderable diſtance between the Diala and Cteſiphon.

19 Ives is not quite correct. He ſays, he paſſed *at* Yealla inſtead of *the* Yealla; for ſuch Diala ſounded to his ear, agreeably to the fluctuation of Dsjiaila, ſo often noticed, like the Diamuna of Ptolemy, for Jumna or Jomanes.

20 D'Anville makes it near twenty; but Ives left Tahkti Kefra about midnight, ſtaid half an hour at the ferry of Diala, and reached Bagdat between ſix and ſeven in the morning. Suppoſe him to travel five hours, and it will ſcarcely amount to more than *fifteen* or ſixteen miles, p. 291. Al-Edriſi ſays fifteen miles, p. 205. but his miles are dubious.

been

been proved, that the wall brought the ten thouſand to Bagdat or near it, and the Diala confines them on the other hand, for if they had paſſed the Tigris below the iſſue of that river, they muſt have croſſed the Diala after they arrived on the eaſt of the Tigris; this they manifeſtly did not, as it is not noticed at all by Xenophon; and an author who records the paſſing of the Phyſcus could not have omitted a much larger ſtream.

The reſult of this inquiry ſerves to eſtabliſh the poſition aſſigned to Opis by d'Anville; and it may be concluded he alſo fixed the paſſage of the Tigris at Bagdat. He has publiſhed a memoir, if I miſtake not, on his map of the Euphrates and the Tigris, but I have not ſeen it; neither do I know how he has diſpoſed of the Opis of Herodotus. On that Opis I muſt be ſilent, obſerving only that it cannot be the ſame as the Opis of Xenophon and Arrian; for he ſays the Gyndes falls into the Tigris, and the Tigris, after paſſing by Opis, iſſues [21] into the Gulph of Perſia. If we are to underſtand by this that Opis is near the gulph, it is evidently not the ſame city. He mentions in another paſſage, that the Tigris falls into the Gulph of Perſia at Ampé, and if there had been any ſuſpicion of the text in the paſſage before us, the two names might have been reduced to one; but there is no appearance of this ſort, and I muſt leave the venerable father of hiſtory to his commentators.

[21] Γύνδης . . . . ἐκδιδοῖ ἐς ἕτερον ποταμὸν Τίγρην ὁ δὲ παρὰ Ὦπιν πόλιν ῥέων ἐς τὴν Ἐρυθρὴν Θάλασσαν ἐκδιδοῖ. Herod. lib. i. p. 89. Compare with lib. vi. p. 447. . . . . ἐν Ἄμπῃ πόλι παρ' ἣν Τίγρης ποταμὸς παραῤῥέων ἐς θάλασσαν ἐξίει.

APPENDIX.

ADVERTISEMENT.

THE learned Author of the ſecond Diſſertation ſays, with no little kindneſs, that had I had the *ill luck* to have conſulted Uſher's Ephemeris, I ſhould not have applied either to his Lordſhip or Mr. Wales for a ſolution of my difficulty: but however it might have been unfortunate to have miſſed the acquiſition of two ſuch Papers, I feel in ſome degree the charge of negligence, for having failed in my purſuit at the very moment when I was in ſight of my object.

The truth is, that I had worked my way through a maſs of obſcurity by the aſſiſtance of Scaliger, Petavius, Dodwell, and Columella; but the edition of Uſher which I uſed was the Engliſh one, and in that, though I found a reference to his Treatiſe on the Solar Year of the Macedonians (which I have noticed), I did not find the treatiſe itſelf; neither is it contained in that edition. This, however, was the clue; and I am ſenſible of vexation, rather than ſhame, that I neglected the opportunity of ſeizing it.

In

In that Ephemeris, Uſher, upon the authority of Euctemon, places the evening riſing of the Pleiades on the eighth of Dius, correſponding with the firſt of October. This is Uſher's own date of the voyage, upon a compariſon of the two paſſages from Arrian and Strabo, in the eighteenth page of his treatiſe; and affords an irrefragable proof, among a thouſand others, that both authors copied from the original Journal of Nearchus.

My own date, with the aſſiſtance of Dodwell, came out the ſecond of October; and this difference, though of one day only from the eſtimate of Uſher, I had laboured much to reconcile. The error was on my ſide; for I had miſcalculated by reckoning the thirteenth of September, which is the firſt of Boedromion, excluſive, inſtead of incluſive. This is the extent of my offence; and, as my confeſſion is unreſerved, I have a right to expect abſolution rather than penance.

After all the trouble cauſed by the diſcuſſion of this queſtion, it is no little pleaſure to find, that the iſſue renders Strabo and Arrian conſiſtent, that it juſtifies Uſher and Dodwell in their calculation of the year and month, and that this calculation is confirmed by the deduction of two proficients in a ſcience which I have never had leiſure to purſue, and to whom I had ſtated the queſtion without furniſhing all the data it required. I have now only to requeſt, that the reader would conſider the departure of the fleet from its firſt ſtation in the Indus as fixed for the *firſt* inſtead of the *ſecond* of October.

DISSERT-

DISSERTATION I. i.

On the Riſing of the Conſtellations.

DEAR SIR,

HAVING at laſt finiſhed the calculations which are neceſſary to enable me to reſolve your queſtions from Columella, I will endeavour to give you the beſt and plaineſt anſwers to them that I can. But to do this it may be neceſſary to ſay ſomething concerning a branch of aſtronomy which was much cultivated by the ancients, namely, the riſings and ſettings of the ſtars, as they reſpect the riſing and ſetting of the ſun. The points chiefly attended to were, the times when certain fixed ſtars, or conſtellations of ſtars, roſe or ſet with the ſun; the times when thoſe ſtars ſet as the ſun roſe, and the times when they roſe as the ſun ſet. The determination of theſe points conſtituted a principal part of the aſtronomy of the ancients, and was eſteemed by them of the utmoſt importance, becauſe it was by theſe means that they regulated their feſtivals, judged of the returns of the ſeaſons, and even eſtimated the length of the year.

As the ſun, apparently, revolves in the ecliptic annually from weſt to eaſt, while the fixed ſtars remain conſtantly in the ſame place, it is manifeſt the ſun muſt come into conjunction, at one time of the year or other, with every ſtar. In the preſent age the ſun comes into conjunction; that is, into the ſame part of the

heavens, with the Pleiades about the middle of May, and, in conſequence, riſes and ſets about the ſame time that they do; in this poſition, the conſtellation was ſaid by the ancients to riſe coſmically and ſet achronically. But it muſt be obſerved, that in all places which have northern latitude, a ſtar, which is to the northward of the ſun when they are in conjunction, will riſe at the ſame inſtant that the ſun riſes a few days before the ſun comes into conjunction with it, on account of the obliquity of the ſphere; and will not ſet at the ſame inſtant the ſun ſets until the ſun has paſſed the conjunction, and got to the eaſtward of the ſtar: that is, the time when the ſtar riſes coſmically happens ſome days before that when it ſets achronically; and the number of days by which the firſt of theſe circumſtances precedes the latter depends partly on the latitude of the place, and partly on the diſtance which the ſtar is to the northward of the ſun at the time of conjunction. On the contrary, if the ſtar be ſouth of the ſun at the time of conjunction, the ſtar will ſet achronically before the conjunction, and will not riſe coſmically till after it is paſt. The contrary to both theſe poſitions takes place in ſouthern latitudes[1].

While the ſun is weſtward of the point which it is in when it riſes with the ſtar, it is manifeſt that the ſun muſt riſe before the ſtar, and, conſequently, the riſing of the ſtar cannot be ſeen. It is as obvious that the riſing of the ſtar cannot be ſeen when the ſun and ſtar riſe together: but ſome time after that, when the ſun has got ſo far eaſt of the ſtar as to be conſiderably below the horizon when the ſtar riſes, the twilight will be ſo little advanced that the

[1] If the place of obſervation be between the tropics, there are caſes in which theſe two general rules do not hold good; but they are very limited, and not worth conſidering here.

ſtar

ſtar may be viſible at its riſing; and, as ſoon as this was the caſe, the ſtar was ſaid to riſe heliacally. The number of days that this circumſtance happens after the time when the ſtar riſes coſmically depends partly on the latitude of the place, partly on the declinations of the ſun and ſtar, and partly on the ſtar's brightneſs: it can therefore only be determined, like the beginning and end of twilight, by obſervation. For the ſame reaſon, the ſtar cannot be ſeen to ſet when it ſets at the ſame inſtant that the ſun ſets; nor can it be ſeen to ſet for ſome days before that time, on account of the twilight: and when the ſun approached ſo near to the ſtar that it could be no longer ſeen to ſet, it was then ſaid to ſet heliacally. Theſe phenomena happen now about the latter end of May and the beginning of June.

After this, the ſun advancing ſtill eaſtward in the ecliptic, while the ſtar keeps its ſituation, will have got ſo far beyond it, that ſome time in the beginning of November the ſun will ſet as the ſtar riſes; and the ſtar is then ſaid to riſe achronically. Moreover, the ſun and ſtar being at this time nearly in oppoſite points of the heavens, it muſt follow that about the ſame time, or a few days either before or after it, according as the place is in ſouth or north latitude, and the ſtar ſouth or north of the ſun at the time of conjunction, the ſtar muſt ſet as the ſun riſes; and when it did ſo, it was ſaid to ſet coſmically.

The longitude and latitude of the *Lucida Pleiadum* was determined with great accuracy by the late Dr. Bradley to be ♉ 26° 38′ 34″, and 4° 1′ 36″ north reſpectively, at the beginning of the year 1760; from whence it will be readily found that, at this time, and in the latitude of Rome, the Pleiades riſe coſmically on or about the 10th of May, and ſet achronically about the 20th of

the ſame month: and that they riſe achronically about the 12th, and ſet coſmically about the 21ſt of November.

Theſe two laſt-mentioned circumſtances, according to your extract from Columella, happened on the 10th of October and 8th of November, in the year 42 after Chriſt. You add, that according to Strabo, Nearchus ſailed from the Indus, at the time when the Pleiades roſe in the evening, or achronically in the year 326 before Chriſt; that Arrian informs us this was on the 2d of October; and you wiſh to be informed how near theſe dates and circumſtances agree together when the preceſſion of the equinoctial points is allowed for. You wiſh alſo to have a popular explanation of the term *Preceſſion, in antecedentia*, and an account of its application to, and effect on, the phenomena which have been explained above.

The two points where the ecliptic croſſes the plane of the earth's equator are called the Equinoctial Points. That which the ſun is in on the 20th or 21ſt of March, when he paſſes to the northward of the plane of the earth's equator, is called the Vernal Equinoctial Point; and the other is called the Autumnal Equinoctial Point.

The earth is not a perfect ſphere, but is in the form of ſuch a bowl as is uſed on a bowling-green; the two poles being in the two flat ſides, and its greateſt diameters all in the plane of the equator. Now, as all bodies attract each other, the protuberant parts about the earth's equator are acted on by the ſun and moon, when they are out of the plane of that equator, in ſuch a manner as to cauſe the two equinoctial points to be carried backward, along the ecliptic, at the rate of $50\frac{1}{4}$ ſeconds of a degree in a year; and this motion of the equinoctial points is called, though ſomewhat improperly perhaps, the Preceſſion of the Equinoctial Points.

As the vernal equinoctial point is carried backward by the above-mentioned quantity yearly, while the fixed ſtars retain their places, and as we continue to reckon the longitudes of the ſtars from that point, it is manifeſt the longitudes of the ſtars will be increaſed every year by $50\frac{1}{3}$ ſeconds. But as the motion of theſe points is in the plane of the ecliptic, this apparent motion of the ſtars will be parallel to the ecliptic; and, conſequently, their diſtance from the ecliptic, which is called their latitude, will not be altered by it. It muſt be farther obſerved that the year (as it relates to aſtronomy) always begins when the ſun is in the vernal equinoctial point; from which it will be evident that it is later, by a ſmall quantity, every year than it was the year before, when the ſun comes to the ſame longitude with any particular ſtar, or to that point of the ecliptic where it riſes or ſets with it: and this is the cauſe why the Pleiades riſe as the ſun ſets, and ſet as the ſun riſes, later now than they did formerly.

It has been already ſaid, that the longitude of the *Lucida Pleiadum* was ♉ 26° 38′ 38″, at the beginning of the year 1760; but in the 1718 years which elapſed between the years 42 and 1760, the preceſſion of the equinoxes, at the rate of $50\frac{1}{3}$ ſeconds in a year, amounts to $86{,}472\frac{2}{3}$ ſeconds, or 24° 1′ $12\frac{2}{3}$″, which being taken from ♉ 26° 38′ 34″, leaves ♉ 2° 37′ $21\frac{1}{3}$″ for the longitude of η Pleiadum in the year 42 after Chriſt: and, as the latitudes of the ſtars remain the ſame[2], the point of the ecliptic which then roſe with this ſtar was ♈ 29° 7′ 9″, the obliquity of the ecliptic being at that time 23° 41′ 24″. Hence the point which ſet as the ſtar roſe was ♎ 29° 7′ 9″; and this point, I find by Mayer's Tables, the

[2] I take no notice here of the very ſmall change which is cauſed in the places of the fixed ſtars by the actions of the other planets on the earth.

ſun

ſun was in on the 19th of October. By a ſimilar proceſs, I find that the point of the ecliptic which roſe as the Pleiades ſet was ♏ 4° 20′, which point the ſun occupied on the 29th of October that year.

The former of theſe determinations differs nine days, and the latter ten from the times aſſigned by Columella; but it may be remarked that the former of theſe errors is in defect, and the latter in exceſs; and as the ſtars riſe and ſet ſooner as the year advances, it follows, that on the 10th of October the ſun would ſet a ſhort time before the ſtar would riſe, and on the 8th of November the ſtar would ſet ſome time before the ſun roſe; both which circumſtances appear to be neceſſary if theſe phenomena were determined by obſervation, as, moſt probably, was the caſe. For it is manifeſt the ſtar's riſing cannot be obſerved when it riſes exactly as the ſun ſets; nor can its ſetting be ſeen when it ſets exactly as the ſun riſes, on account of the daylight, as hath been already obſerved: but, perhaps, the one might be ſeen by a good eye, in the latitude of Rome, nine or ten days before, and the other as much after the time when the two circumſtances happened together; and I have not a doubt but that the difference between Columella's obſervation and my calculation is to be attributed to this cauſe.

I am next to inquire whether the effect of the preceſſion of the equinoctial points will reconcile Strabo's account, which ſtates that Nearchus ſailed at the time when the Pleiades roſe in the evening, that is to ſay, as the ſun ſet, with the account of Arrian, who ſays expreſsly, that he ſailed on the 2d of October in the year before Chriſt 326. In the interval between the year 42 after, and the year 326 before Chriſt, the preceſſion amounts to 5° 8′ 42$\frac{2}{3}$″, which being taken from ♉ 2° 37′ 21$\frac{1}{3}$″, the ſtar's longitude in the year 42 after

42 after Chriſt, leaves ♈ 27° 28′ 38$\frac{1}{2}$″ for the longitude of the *Lucida Pleiadum* in the year 326 before Chriſt; and the point of the ecliptic which roſe with the ſtar, in this ſituation, at Rome, in the year 326 before Chriſt, the obliquity of the ecliptic being then 23° 44′ 13″, was ♈ 19° 26′ 41″: but as the ſun was ſetting when the ſtar roſe, it muſt have been in ♎ 19° 26′ 41″, the oppoſite point of the ecliptic, which point the ſun occupied on the 17th of October; fifteen days after that which is fixed by Arrian for the ſailing of Nearchus. Now if nine or ten days were ſufficient to render the riſing of the Pleiades viſible at Rome, we are certain that more could not be requiſite to render their riſing viſible at the place Nearchus ſailed from, which is in a much lower latitude; we are therefore led to ſuppoſe, either that Strabo ſpake in general terms, (as indeed ſeems to be the caſe,) meaning only to point out the ſeaſon, and not the day when Nearchus ſet out on his expedition, while Arrrian gave the preciſe day on which it happened, or that ſome miſtake has crept into one or the other of theſe authors: to me, the former ſuppoſition ſeems moſt natural.

But notwithſtanding it is highly probable that the apparent difference between the two hiſtorians ought to be referred to one or other of theſe cauſes, it is by no means certain that either one or other of them muſt be reſorted to. It is poſſible that it ought to be attributed to another cauſe.

The preceding calculation is founded on a ſuppoſition that the Julian calendar has been in uſe ever ſince the year 326 before Chriſt; but we know it was not eſtabliſhed by law till about 45 years before Chriſt, and that before that æra different modes of computation were uſed by different perſons, who did not always tell us what mode of computation they made uſe of. Now, notwithſtanding

withſtanding both Arrian and Strabo refer to the ſame authority, it is poſſible the years by which that Author reckoned might differ from Julian years; and if they did, a greater difference than that which exiſts between them might ariſe from that circumſtance.

There is a circumſtance occurs in the foregoing calculations which may lead ſome perſons to conclude I have committed a miſtake in them; and which it is therefore neceſſary to obviate. The quantity of the preceſſion in the interval between the year 326 before, and the year 42 after Chriſt is $5^{\circ}\ 8'\ 42\frac{1}{2}''$, a ſpace which the ſun is more than five days paſſing over. It may therefore be ſuppoſed, that the difference between the achronical riſings of the ſame ſtar, at theſe two times, ought to be between five and ſix days, whereas I make it little more than two: but it muſt be conſidered, that near three of theſe five days are anticipated by the exceſs of the Julian year above the true length of the ſolar year in that interval.

This, Sir, is the plaineſt anſwer I can give to the queſtions you have been pleaſed to propoſe. They betray no ignorance in a perſon who does not profeſs to be an aſtronomer, as the circumſtances are certainly ſufficient to create doubt, which every rational mind muſt be anxious to clear up. If I have contributed any thing toward this by what I have written, I ſhall be very happy, and am,

REVEREND SIR,

Your's very ſincerely,

WILLIAM WALES.

CHRIST'S HOSPITAL,
Jan. 14th, 1796.

DISSERTATION I. ii.

On the Riſing of the Conſtellations.

DEAR SIR,

YOU will receive, I hope, ſome ſatisfaction from the reſult of my calculations upon the different dates, aſſigned by Arrian and Strabo, to the commencement of Nearchus's expedition; which at firſt, I confeſs, I thought too diſcordant to be reconciled by any probable conjecture, without tampering with the text of Arrian, which, in my judgment, ſeemed to carry ſome marks of corruption.

The method I have taken has been to go directly to the inveſtigation of the time of the acronychal riſing of the Pleiades, in that part of the world where the voyage was undertaken, in the year before Chriſt 326, which was the year of the voyage; and, for a reaſon which will preſently appear, I have not concerned myſelf at all with Columella's riſings or ſettings.

Arrian ſays, that Nearchus ſailed from the mouth of the Indus as ſoon as the Eteſiæ ceaſed, in the eleventh year of the reign of Alexander, according to the reckoning of the Macedonians and the Aſiatics, and on the 20th of the Athenian month Boëdromion.

This eleventh of the reign of Alexander, it is agreed, was the year before the vulgar æra of our Lord 326; and the 20th of Boëdromion in this year, upon the authority of eminent chronologers, you take to have been the 1ſt of October, St. Jul. And in this reduction, if there be any error, which, though I ſuſpect, I will not too confidently aſſert, it cannot be of more than a ſingle day.

Strabo's account is, that "the fleet ſailed in autumn about the ſeaſon of the evening riſing of the Pleiades, before the winds were fair, the barbarians attacking them and forcing them to ſea."

This claims great attention, for it is Nearchus's own account. The words of Strabo import as much, and the thing ſpeaks, in ſome meaſure, for itſelf. The character, by which the time is deſcribed, is of a ſort to have been taken from the journals of the mariners themſelves; for any ſecond-hand writer of the voyage would have expreſſed it in a more popular manner, by affixing to it, as we ſee Arrian has done, a preciſe date, or a date at leaſt pretending to preciſion, in ſome well-known civil reckoning. But if this character of the time of the commencement of the expedition came from the original journals of the mariners; it follows, that ſome two or three days before they ſailed, or two or three days after, (for in this ſort of date no greater accuracy is to be expected,) they *ſaw* the Pleiades riſen in the eaſt, ſome ſhort ſpace of time after the ſun was ſet in the weſt; or rather, ſince the ſtar could not be ſeen when the ſun was yet upon the horizon, they ſaw the ſtar about an hour after ſunſet with that altitude, that they concluded it had riſen at the moment when the ſun ſet.

We

We have to inquire, therefore, on what day of the year, in the year of this voyage, namely before Chriſt 326, the Pleiades roſe acronychally in that part of the world, from which theſe voyagers ſet out; that is to ſay, at the mouth of the Indus. If this ſhould be found to agree with Arrian's date, all will be well. If not, the phænomena of the Roman horizon in the time of Columella, even upon the ſuppoſition that Columella's repreſentation of them is exact, will throw no light upon our ſubject.

Now I aſſume 24° north for the latitude of the mouth of the Indus. This is nearly the truth; and I take the even number, becauſe the difference of one-half of a degree, more or leſs, will not affect the reſult of the calculation.

By Dr. Bradley's obſervations, the longitude of Lucida Pleiadum, in the beginning of the year 1760, was ♉ 26° 38′ 34″, and the latitude 4° 1′ 36″ north.

The interval of time, between the beginning of the year 1760 and the beginning of the year before Chriſt 326, is 2085 Julian years; and, in this time, the retrogradation of the equinoctial points amounts to 29° 7′ 55″.

Therefore, in the beginning of the year before Chriſt 326, the longitude of Lucida Pleiadum was ♈ 27° 30′ 39″, and the latitude 4° 1′ 36″ north.

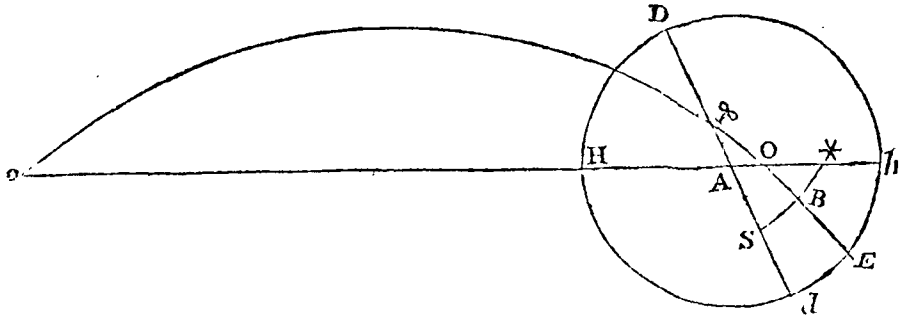
The obliquity of the ecliptic at this ſame time was 23° 44′ 14″.

In the figure annexed, let H A h, D A d, ♈ O E, repreſent the horizon, the equinoctial circle and the ecliptic, all projected upon the plane of the meridian of the mouth of the Indus, at the inſtant when Lucida Pleiadum is riſing. Let the ecliptic interſect the horizon, on the caſtern ſide in O; and on the weſtern, in o. Let * be

Lucida Pleiadum upon the eaſtern horizon; then O will be the point of the ecliptic, which comes to the eaſtern horizon, and riſes with the ſtar; and the oppoſite point in the weſt, o, will be the point of the ecliptic, which ſets when the ſtar riſes.

Through * draw a great circle of latitude * B S, meeting the ecliptic in B, and the equinoctial in S. Then, in the ſpherical

Fig. 1.



triangle ♈ B S, we have the angle at B right. B ♈ S, the obliquity of the ecliptic, = 23° 44′ 14″; the ſide ♈ B, the longitude of Lucida Pleiadum, = 27° 30′ 39″. Therefore, by the reſolution of the triangle, we find the angle B S ♈ = 69° 4′ 57″, and the ſide B S = 11° 28′ 56″.

But the arc * B is the latitude of Lucida Pleiadum, = 4° 1′ 36″; and * S = * B + B S = 15° 30′ 32″. Therefore, in the ſpherical triangle * S A, we have the ſide * S = 15° 30′ 32″; the angle * S A (or B S ♈) = 69° 4′ 57″, and the angle * A S, the complement of the latitude of the place, = 66°. Therefore, by the reſolution of the triangle, we find the angle S * A = 43° 24′ 29″.

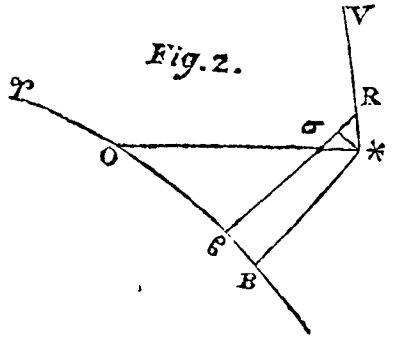
Before we proceed further in the calculation it is proper to obſerve, to ſave unneceſſary trouble, that it will not ſerve our purpoſe

to

to aſcertain the longitudes of the points O and o, which the reſolution of one triangle more would give. But the longitude of the point o, which ſets when the ſtar really comes to the horizon, would give us only the day, which *would* be the day of the acronychal riſing of Lucida Pleiadum, if the atmoſphere poſſeſſed no refractive power. But when the ſtar is really upon the eaſtern horizon, it appears, by the effect of the refraction of the atmoſphere, at the height of about half a degree above it. And if the ſun at the ſame time were ſetting upon the weſtern horizon, he would appear, from the ſame cauſe, at the height of about half a degree above it; ſo that on the day when the ſun is really upon the weſtern horizon, at the ſame inſtant when the ſtar is really upon the eaſtern, the ſtar by the effect of refraction will have riſen, and the ſun will not be ſet. What we want to find is the day when the ſtar would be *ſeen* riſing, and the ſun *ſeen* ſetting at the ſame inſtant, if the ſtar could be ſeen in the light of the ſetting ſun; which will be an earlier day, than that whereon the riſing ſtar and ſetting ſun would come to the eaſtern and weſtern horizon reſpectively at the ſame time. To determine this day of the viſible acronychal riſing of the ſtar, we muſt eſtimate the effect of refraction both upon the ſtar and upon the ſun. The effect of refraction upon the ſtar will eaſily be aſcertained by means of the angle S * A, the quantity of which we have already determined; and this is the only uſe of the calculation, ſo far as we have yet carried it.

In figure 2, let O *, O B, * B, repreſent the ſame arcs of the horizon, ecliptic, and circle of latitude paſſing through the ſtar, as in the former figure.

Through



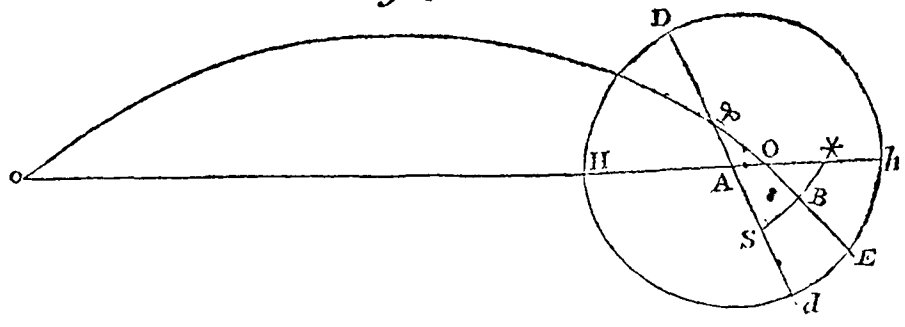
Through * draw a vertical circle * V, and ſet off an arc * R = to the horizontal refraction, *i. e.* = 30′ 51″. Through R draw a great circle of latitude, meeting the ecliptic in ℘; and through * draw a ſmall circle parallel to the ecliptic, and let this ſmall circle meet the great circle of latitude, drawn through R, in σ.

Now ſince the light of the riſing ſtar upon the horizon is thrown, by the effect of refraction, up to R, in the vertical circle, ſo as to appear in the heavens in the point R; the ſtar, which, without refraction, would be ſeen, where it really is, at the point * in the circle of latitude * B, appears at the point R in the circle of latitude R ℘. Both the latitude and longitude, therefore, of the ſtar are changed in appearance by refraction; the latitude being increaſed by the quantity of the arc R σ, and the longitude diminiſhed by B ℘.

In the triangle * R σ, right-angled at σ, which for the ſmallneſs of its ſides may be treated as a rectilinear triangle, the ſide * R = 30′ 51″; the angle R * σ, which with σ * O makes a right angle, muſt be equal to O * B (A * S of Figure 1.), which with the ſame σ * O makes a right angle; therefore, R * σ = 43° 24′ 29″. Therefore, by the reſolution of the triangle, the ſide R σ = 21′ 12″, and the ſide * σ = 22′ 24″. This is the length of * σ in parts of a great circle; whence B ℘ will be found 22′ 28″. Hence R ℘, the apparent latitude of the refracted ſtar, = R σ + σ ℘ = 4° 22′ 48″, and ♈ ℘, its apparent longitude, = ♈ B—B ℘ = ♈ 27° 8′ 11″.

Now

Fig. 1.



Now then, in Figure 1, we muſt reſume the reſolution of the triangles, making uſe of the ſtar's apparent longitude and latitude, inſtead of the true. Thus in the ſpherical ♈ B S, which is right-angled at B, put ♈ B = 27° 8′ 11″; the angle B ♈ S, 23° 44′ 14″ as before. Then, by the reſolution of the triangle, the angle B S ♈ = 69° 0′ 30″, and the ſide B S = 11° 20′ 29″.

But * B is to be taken as the ſtars refracted latitude = 4° 22′48″; and * S = S B + B S = 15° 43′ 17″. Therefore, in the ſpherical triangle * S A, we have the ſide * S = 15° 43′ 17″; the angle * S A = 69° 0′ 30″, and the angle * A S, the complement of the latitude of the place, = 66°. Therefore, reſolving the triangle, we find the angle S * A = 43°29′ 34″.

Then in the ſpherical triangle * B o, which is right angled at B, we have the angle B * o (S * A) = 43° 29′ 34″; and the ſide * B, the ſtar's refracted latitude, = 4° 22′ 48′. Whence, reſolving the triangle, we find the ſide O B = 4° 8′ 39″.

Now ♈ B, the apparent longitude of the refracted ſtar, = 27° 8′ 11′; and we have found O B = 4° 8′ 39″. Therefore, ♈ O = ♈ B — O B = 22° 59′ 32″; and this is the longitude of that point of the ecliptic, which comes to the eaſtern horizon, at the ſame inſtant of time, with the refracted light of the ſtar.

The point o oppoſite to this, which comes to the weſtern horizon,

at the ſame inſtant of time, when the refracted light of the ſtar is upon the eaſtern horizon, is $= 22^\circ\ 59'\ 32''$.

But if this were the true place of the ſun, when the refracted ſtar is upon the eaſtern horizon; the ſun would not yet be ſet, but would appear, by the effect of refraction, about half a degree above the horizon. We muſt inquire, what the ſun's true place muſt be, in order that the horizontal refraction may throw his light into the point O; for the time when this happens will be the true acronychal riſing. And for this purpoſe we muſt eſtimate the effect of the horizontal refraction upon the ſun's apparent longitude; and this depends upon the angle which the ecliptic, at ſun-riſe or ſun-ſet, makes with the horizon; that is upon the angle ♈ O A (Figure 1.) or its equal ✻ O B.

The angle ✻ O B is eaſily found, by reſolving the ſpherical triangle ✻ O B, in which the angle at B is a right angle; the angle B ✻ O $= 43^\circ\ 29'\ 34''$, and the ſide ✻ B $= 4^\circ\ 22'\ 48''$. Hence the angle ✻ O B comes out $46^\circ\ 39'\ 57''$.

Now, to avoid confuſion, draw the ſpherical triangle O ✻ B by itſelf in Figure 3. Through O draw a vertical circle O V, and take the arc O R = horizontal refraction = $30'\ 51''$. Through R draw a great circle of latitude, and let it meet the ecliptic in the point ω.

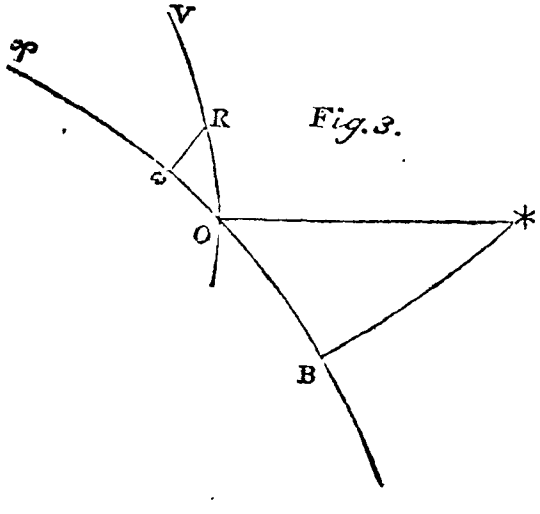


Fig. 3.

Then, if the ſun be upon the horizon at O, the horizontal refraction will throw his light up to R, and in that point he will appear in the heavens. He will appear at

at R upon the circle of latitude R ω; ω will be his apparent place in the ecliptic; and the arc of the ecliptic, O ω, will be the difference between his true and his apparent place; or the effect of the horizontal refraction upon his apparent longitude.

In the triangle R o ω, which, for the ſmallneſs of its ſides, may be treated as a rectilinear triangle, the angle at ω is a right angle. The angle R O ω, being the complement of $*$ O B, is 43° 20′ 3″. Hence O ω comes out 22′ 26″; and this, as has been ſaid, is the effect of the horizontal refraction upon the riſing ſun's apparent longitude, his true place being O, in the latitude of 24° north. And the ſame will be the quantity of the effect upon the ſetting ſun, in the oppoſite point of the ecliptic o, in the ſame latitude; for the quantity of the effect in any given latitude, upon the riſing ſun, in any given point of the ecliptic, and of the effect upon the ſetting ſun in the oppoſite point of the ecliptic, will be the ſame; the angle which the ecliptic in oppoſite points makes with the horizon, upon which the effect depends, being equal: but the effect lies, in the two caſes, in oppoſite directions; the refraction making the apparent longitude of the riſing ſun weſt of his true place, and the apparent longitude of the ſetting ſun eaſt of his true place.

Hence, that refraction might throw the light of the ſun to the point o in the weſtern horizon, at the ſame inſtant of time when refraction brought the light of Lucida Pleiadum to the eaſtern horizon, in the climate in queſtion, we muſt put the ſun's true place 22′ 26″ weſt of the point o.

The point o has been found to be $\simeq$ 22° 59′ 32″; therefore the ſun's true place, in order that the required effect ſhould be produced, muſt have been $\simeq$ 22° 37′ 6″. By an accurate calculation of the motions of the ſun, (by Mayer's Tables,) I find that, in the year before Chriſt 326, he came to this place October 19, 10^{hrs} 25′ 9″

St. Jul. mean time under the meridian of Greenwich: but to this, to be exact, we muſt apply a correction for the effect of the preceſſion upon the longitude of Lucida Pleiadum, in the interval between the commencement of the year and October 19th, (ſince the ſun's place is deduced from the longitude of the ſtar,) + 16″; add alſo 4′ 36″, for the difference between the meridians of Greenwich and the mouth of the Indus, and we have October 19th, 15^{hrs} 17′ mean time under the meridian of the mouth of the Indus.

The 19th of October (St. Jul.) therefore was the day of the acronychal riſing of Lucida Pleiadum, upon the horizon of the mouth of the Indus, in the year before Chriſt 326, *i. e.* in the year of the Julian period 4388.

It may perhaps ſtrike you as a difficulty, that the time that our calculation gives for the appulſe of the ſun to the required place, falling between three and four o'clock in the morning of the 20th, under the meridian of the mouth of the Indus, the ſun was actually ſet on the 19th many hours before he came to that point of the ecliptic, which would have made a preciſe acronychal riſing of the ſtar, had the inſtant of the ſun's appulſe, in his annual courſe, to that point coincided with the inſtant of ſunſet: but this not being the caſe, you may wonder how we can ſay there was an acronychal riſing at all.

Now this is really the fact; that, ſpeaking with geometrical preciſion, there was in this year no day of an exact acronychal riſing of Lucida Pleiadum; and it very ſeldom happens, that there is an exact acronychal riſing of any ſtar at any place, if we inſiſt upon this ſtrict ſenſe of the words; becauſe it very ſeldom happens, that the inſtant of the ſun's appulſe to the required point in the ecliptic, and the inſtant of ſunſet, are the ſame. They may differ ſeveral hours; and the ſame thing happens in the coſmical and heliacal riſings

riſings and ſettings; nevertheleſs, there will always be a day, when the riſing will be nearer to acronychal, than in any other. And this, phyſically ſpeaking, is the day of the acronychal riſing; and, in our caſe, the 19th was that day; for on the 19th the ſun, at the hour of ſunſet, was 24′ 45″ of longitude behind the required place. On the 20th, at the hour of ſunſet, he was 35′ 58′ before it; ſo that the ſetting ſun was much nearer to the required place on the 19th than the 20th.

I fear you will find the accuracy, with which I have purſued theſe calculations, tedious; but I have choſen to give them in detail, that they may be the more eaſily examined. I have been diffuſe upon the refractions, becauſe the effect of refraction upon the longitude and latitude of celeſtial objects, though a matter of no difficulty to mathematicians, is not generally underſtood; and yet is very intelligible, if thoſe who are maſters of it would take the trouble to explain it.

The 19th of October (St. Jul.) you ſee was the day of the acronychal riſing of Lucida Pleiadum at the mouth of the Indus, in the year of our voyage. The voyage commenced, according to Arrian, on the 20th of Boëdromion (for that he gives as the very day on which the fleet ſailed), and the 20th of Boëdromion in that year, you reckon, with Dodwell, the 1ſt of October; and in this reckoning there can be no material error.

I have never examined Dodwell's Tables of the Metonic Cycles. I make uſe of a very compendious Table of my own, by which I can, in a very few minutes, aſcertain, on what day of the Julian year the 1ſt of Hecatombæon, in any given year of any given Metonic Cycle, fell, according to the principles upon which my Table is formed. And the 1ſt of Hecatombæon, *i. e.* the beginning of the year, being once determined, the whole year is eaſily reduced to the Julian

reckoning, by a general Table of the Cycle. In the principles upon which my Table is formed, I agree not entirely either with Scaliger or Petavius. In the order of the months, I agree with Scaliger. I agree with Scaliger in the epoch of the firſt Cycle; placing it on the 15th of July, not on the 16th with Petavius. I place the Embolimæan month in the 3d, 6th, 9th, 11th, 14th, 17th, and 19th years of the Cycle: in which I agree entirely with Petavius, except in the third Emboliſm, which he (with Scaliger and Dodwell) places on the 8th year of the Cycle. I put it in the 9th; diſſenting, I confeſs, in this from every one. In the arrangement of the exæreſimal days, I follow the very beſt authority I know, that of the learned aſtronomer Geminus.

Now the year of the voyage in queſtion was the year of the Julian period 4388; it was therefore the 107th Metonic year; that is, the 12th year of the 6th Cycle. That is to ſay, five Cycles were completely run out, ſince the firſt introduction of this 19-year period, and the 12th year of the 6th Cycle was in its courſe. And I find by my own Tables, that the 1ſt of Hecatombæon, in the 12th year of the 6th Cycle, fell on the 15th of July (St. Jul.). Add 29 days (for the Hecatombæon of this year was a hollow month), and we come to the 1ſt of Metageitnion, on the 13th of Auguſt. Add 30 days (for Metageitnion of this year was a full month), and we come to the 1ſt of Boëdromion, on the 12th of September. The 12th of September being the 1ſt of Boëdromion, the 1ſt of October ought to be the 20th of Boëdromion. But Boëdromion in this year was a hollow month, and the exæreſimal day came before the 20th, being the 18th; therefore the 30th of September was the day which, according to my principles, was counted the 20th of Boëdromion in this year.

By

By Scaliger's principles, the 20th of this Boëdromion will fall on the very ſame day, the 30th of September. By Petavius's, one day later, namely on the 1ſt of October.

It is certain, therefore, that on one of theſe two days, either the 30th of September or the 1ſt of October, Nearchus ſailed from the mouth of the Indus, according to Arrian; conſequently, he had been eighteen or nineteen days at ſea, before the day came of the acronychal riſing of Lucida Pleiadum; taking acronychal riſing ſtrictly, according to the mathematical definition of the terms. It is true, that Strabo's words import not that the fleet ſailed on the very day, but at the ſeaſon only, of the acronychal riſing of the Pleiades; but yet eighteen or nineteen days ſeemed too great a difference to admit even this lax deſcription of the time. I was at firſt, therefore, inclined to ſuſpect an error in the name of the month in Arrian; and I tried a conjectural emendation; but the ſevere teſt of a ſtrict calculation compelled me to diſcard it.

After various conjectures, and many long calculations, I am entirely perſuaded, that Mr. Wales's very ingenious conjecture, by which he reconciles his calculation of the acronychal riſing of the Pleiades at Rome, in the year of our Lord 42, with Columella's date, is the only ſolution, and the true ſolution of the difficulty. The perfect agreement that it will produce between Arrian and Strabo, in the time of Nearchus's ſailing, is indeed aſtoniſhing.

Mr. Wales obſerves, that the exact acronychal riſing of a ſtar is never viſible, on account of the ſun's light; but it is equally true, that the riſing of the ſtar for ſeveral evenings before the day of the acronychal riſing will not be viſible: for the ſun muſt not only be ſet, but he muſt be ſet and ſunk to a certain diſtance below the horizon, for the twilight to be ſufficiently faint to allow the fixed ſtars to appear. Suppoſe then, that on a certain day, no matter what, the

ſun

ſun is ſunk ſomewhat below that diſtance, when a particular ſtar is upon the eaſtern horizon; on that evening, if the ſky be clear, the riſing of the ſtar may be obſerved. Suppoſe, that the next night the ſun is not ſunk quite to the required diſtance, when the ſame ſtar is upon the eaſtern horizon: then the riſing of the ſtar will not be viſible; and when the ſtar becomes viſible, it will be ſeen at ſome ſmall diſtance above the horizon: the next night, it will be at a greater height above the horizon, when it is firſt ſeen; the third, a greater ſtill; and, on the evening of true acronychal riſing, the ſtar will have gained a very conſiderable height, when it is firſt ſeen. It certainly was very natural (and it was the only way for popular uſe) for the ancients to call that the evening of the acronychal riſing, on which they firſt miſſed the ſight of the riſing ſtar.

The diſtance below the horizon, to which the ſun muſt be ſunk when a ſtar firſt becomes viſible, is different according to the magnitude of the ſtar. Lucida Pleiadum is a ſtar of the third magnitude; and Ptolemy ſays, that ſtars of the third magnitude firſt become viſible when the ſun is ſunk 14° below the horizon. Now I find by calculation, that in the year of the Voyage (of the Julian period 4388), when the ſun was 14° below the weſtern horizon, at the ſame inſtant of time when Lucida Pleiadum came to the eaſtern horizon, his true place muſt have been $\simeq 3^{\circ}\ 33'\ 56''$; and he came to this place in that year, September 30, $12^{hrs}\ 59'$ (St. Jul.) mean time under the meridian of Greenwich. Apply, as before, the proper correction for the effect of the preceſſion upon the longitude of Lucida Pleiadum, namely + 15′, and we have September 30, $13^{hrs}\ 14'$ mean time under the meridian of Greenwich. Add $4^{hrs}\ 36'$, and we have September 30, $17^{hrs}\ 50'$ mean time under the meridian of the mouth of the Indus; which, as we in our civil reckoning divide the day, was 10′ before ſix in the morning of the 1ſt of October.

On

On the evening, therefore, of the 30th of September, the ſun (ſetting in that latitude about 5^{hrs} 57′ 26″, apparent time after noon) would be many minutes more than 14° below the horizon, when Lucida Pleiadum was riſing. The riſing of the ſtar, therefore, that evening might be ſeen a minute or two later than 1^{hr} 0′ 24″ after ſunſet; but the next evening, the 1ſt of October, the ſun would be only 13° 37′ 15″ below the horizon, when the ſtar was riſing, wanting 22′ 45″ of the full depreſſion of 14°. This evening, therefore, the ſtar could not be ſeen upon the horizon. But as the ſun ſunk at the rate of 13′ 40″ in 1′ of time, he would ſink to the limit of 14° in 1′ 40″ of time after the inſtant of the ſtar's riſing: and as the ſtar riſes in the latitude of 24° north, at the rate of 13′ 11″ in 1′ of time, the ſtar, 1^{hr} 0′ 24″ after ſunſet, and 1′ 40″ after the moment of its own riſing, would break through the expiring twilight with the apparent altitude of 21′ 58″ (I ſay with the *apparent* altitude, for the effect of refraction upon the ſtar is included in theſe calculations). This altitude is very ſenſible to the naked eye, being ſcarce leſs than $\frac{2}{3}$ of the whole diameter of the ſun: but the next evening (Oct. 2d) would certainly put the matter out of doubt; for, on the 2d of October, the ſtar, at the ſame diſtance of time after ſunſet, would break through the remains of the twilight, with the very ſenſible altitude of 1° 2′ 48″ at the moment of its firſt apparition. Whence our mariners would conclude, that the ſenſible acronychiſm was paſt. It appears, therefore, that what theſe mariners would call the acronychal riſing of the Pleiades, took place either on the very day the fleet ſailed, or the next, or, at the lateſt, the next day but one.

Thus, by a train of calculations of conſiderable length and labour, but of the greateſt certainty, and purſued with the moſt ſcrupulous accuracy, by the help of Mr. Wales's ſuggeſtion, the ingenuity

ingenuity of which I cannot ſufficiently admire, we have brought the two accounts of Strabo and Arrian to a perfect good agreement.

I congratulate you and myſelf upon the ſucceſs of the inveſtigation, and remain,

DEAR SIR,

Your very faithful friend
and obedient ſervant,
S. ROCHESTER.

DEANERY,
June 6, 1796.

P. S. You will perhaps ſuſpect that I have committed a miſtake in the very entrance upon theſe calculations, by reckoning the interval between the commencement of the year before our Lord 326 and the commencement of the year of our Lord 1760, no more than 2085 Julian years, whereas you may think it was 2086. The truth however is, that, through careleſſneſs, I fell into the oppoſite miſtake; I reckoned the interval 2086 Julian years inſtead of 2085; and, by this inadvertency, I gave myſelf the trouble of going through the whole calculation from beginning to end a ſecond time, and of correcting all my numbers; though the error accruing from this over-reckoning of that interval, might well have been neglected in this inveſtigation.

To underſtand how it is that the leſſer is the true interval, you muſt know that it is the uniform error of chronologers, reckoning by the æra of our Lord, to reckon the years before our Lord too many by one. The year which chronologers call the year before Chriſt 326, was the year of the Julian period 4388, as you may ſee by turning to Blair's Tables, Petavius, or Uſher. The year of our Lord 1760 was the year of the Julian period 6473; the in-

terval, therefore, is 2085 Julian years. The reckoning by the æra of our Lord, when we have to do with time antecedent to the æra, is ſeldom conducted with preciſion but in aſtronomical tables. If you turn to Mayer's Tables, you will find there, in the firſt page of the Epochs of the Sun's Motions (p. 6.), and again in the firſt page of the Moon's Epochs (p. 36.), a year of Chriſt, 0; and it appears by the epochs aſcribed to this year of Chriſt, 0, that it is the year of the Julian period 4713. Now, the year of the Julian period 4713, chronologers call, as you will ſee again by their tables, the year *before* Chriſt 1; at the ſame time they call the next ſucceeding year of the Julian period, *viz.* 4714, the year *after* Chriſt 1; and by this inaccuracy of their language, they in effect repreſent the interval between any numerical day of the year 4713 of the period (the 1ſt of March for inſtance) and the ſame numerical day of the very next year of the period, as conſiſting of two whole years inſtead of one.

Since I finiſhed my calculations I have, almoſt accidentally, met with what I deem a ſtrong confirmation of the accuracy of the concluſion to which they have brought us. In Archbiſhop Uſher's Ephemeris of the Macedonian year, I find this entry againſt the 8th day of the month Dius. "*Euctemoni veſpertinæ apparent Pleiades.*" The 8th of the month Dius, according to Uſher's reduction of the Macedonian year, was the 1ſt of October (St. Jul.). Euctemon the aſtronomer is mentioned by Ptolemy as Meton's aſſiſtant, in the obſervation of the ſummer ſolſtice. He flouriſhed, therefore, in Greece, about a century earlier than the time of this expedition.

I imagine that Archbiſhop Uſher took this date of Euctemon's evening riſing of the Pleiades from Geminus, reducing Geminus's date to the Macedonian year; for in Geminus's parapegm

which he gives in the 16th chapter of his Iſagoge, I find this entry:

Τὸν δὲ ζυγὸν διαπορεύεται ὁ ἥλιος ἐν ἡμέραις λ.

And a few lines lower,

Ἐν δὲ τῇ Ε Εὐκτήμονι Πλειάδες ἑσπέριαι φαίνονται εἰς τὸ πρὸς ἕω.

The numeral E denotes the 5th day of the ſun in Libra. The ſun entered Libra, according to Euctemon and Meton, September 27th; his 5th day in Libra, therefore, was October 1, the 8th of Uſher's Dius.

On the 5th day of the ſun's paſſage through the ſign of Libra, he was in the 5th degree of Libra according to the mean motions; and the proſthaphæreſis at this time being 1° 38′, with the negative ſign, his true place was in the third degree of Libra. And this again agrees wonderfully with my calculations.

Had you had the ill luck to conſult Uſher's Ephemeris, or Geminus's, inſtead of Columella, you would not have propoſed this queſtion to Wales or me; for you would have taken it for granted, that Strabo and Arriana greed. Had either he, or I, conſulted them before we calculated, we perhaps ſhould not have engaged in the labour of theſe calculations. We ſhould have adviſed you to follow Euctemon, without regard to Columella deſcribing the phænomena of another climate in another age; but then we ſhould not have diſcovered what Wales has conjectured, and my calculations, I think, put out of doubt; that when the ancients ſpeak of acronychal riſings, they are to be underſtood of the ſenſible acronychiſm. and this is a principle which may prevent many miſtakes in deducing concluſions in chronology from theſe aſtronomical characters of time which the ancients uſed.

NOTE

NOTE on the ſmall STADIUM of ARISTOTLE, p. 52.

By the Right Rev. Dr. HORSLEY, *Lord Biſhop of* Rocheſter.

CIRCUMFERENCE of the earth, according to Eratoſthenes, = 252,000 ſtadia; Ariſtotle, = 400,000 ſtadia; therefore Ariſtotle's ſtadium to the ſtadium of Eratoſthenes as 252 to 400, that is, as 5 to 8 very nearly. This is a much more exact proportion than that of 4 to 7; for the proportion of 4 to 7 makes Eratoſthenes's ſtadium too large by almoſt $\frac{1}{9}$; whereas the proportion of 5 to 8 makes it too large by no more than $\frac{1}{72}$.

Proportion of Roman foot to London foot 97 : 100: hence Roman foot = 11,64 inches; paſſus (5 feet) = 4 feet 10,2 inches, London meaſure; milliare (1000 paſſus) = 7 furlongs 76 yards 2 feet, or 4850 feet London meaſure.

Call the Roman paſſus P, milliare M, Olympic ſtadium Σ.

Now (by Polybius as quoted by Strabo) $M = 8\,\Sigma + \frac{1}{3}\,\Sigma$.

Hence $125\,P\,(= \frac{1}{8}\,M) = \Sigma + \frac{1}{24}\,\Sigma = \frac{25}{24}\,\Sigma$.

Hence $5\,P = \frac{1}{24}\,\Sigma$; and $120\,P = \Sigma$.

Hence Σ, or Olympic ſtadium, = 582 feet London, or 194 yards.
or Olympic ſtadium, = 0,110227′27′ miles London.

$8 : 5 = 0{,}110227'27' : 0{,}068892045'45'$.

Hence Ariſtotle's ſtadium = 0,068892045′45′ miles London.

 Hence

		Ariſtotle's Stadium.		Miles London.
Hence from Jamad to Mouth of Indus,	=	10000	=	689
Coaſt of Arabitæ, -	=	1000	=	68,9
Oritæ, - -	=	1600	=	110,24
Ichthyophagi, - -	=	10000	=	689
Karmania, - -	=	3700		254,93
Perſis, - -	=	4700	=	323,83
Total,		31000	=	2135,90

Hence, by reduction of the Greek meaſures, the whole diſtance ſhould be 2135,9 miles London; which, however, if the decimals had been more exactly computed, would have been 2135,65 miles London: for 0,068892 × 31000 = 2135,652, the actual meaſurement by the moderns, gives 1908 miles; the difference is 227,65 miles London, or $\frac{10}{94}$ths of the whole diſtance.

But if 8 Olympic ſtadia were exactly a Roman mile, and Polybius's addition of $\frac{1}{3}$ of a ſtadium was an error of his, ariſing from the difference between the Roman and the Olympic foot; then 1 Olympic ſtadium was 606,25 feet London, or 0,1147774 miles London, and Ariſtotle's ſtadium will be 0,0717359 miles London, and the whole diſtance will be 0,0717359 × 31000 = 2223,8 miles London, which makes the difference between the ancient and modern meaſures ſtill greater; and this makes it probable that Polybius's eſtimation of the ſtadium was right.

It is to be remarked by the way, that if this eſtimation was right, the opinion which has ſo generally and ſo long prevailed of a difference between the Greek and the Roman foot, making the former greater than the latter, in the proportion of 25 to 24, muſt be erroneous. It ſeems to have been current

among the Romans themſelves, but it muſt have been founded on a groſs eſtimation of the length of the Olympic ſtadium. The Romans, in their popular valuation of the Greek meaſures, would be apt to reckon eight Olympic ſtadia to be exactly equal to their own mile, taking no account of the fraction mentioned by Polybius. Hence they would infer, that the Olympic ſtadium was 125 Roman paſſus, *i. e.* 625 Roman feet, which is, indeed, the length expreſsly aſſigned to it by Pliny. But it was very well known, that this ſtadium was but 600 of its own feet. It was concluded, therefore, that 600 Greek feet make 625 Roman, whence the conſequence would be, that the Greek foot was to the Roman as 625 to 600, that is, as 25 to 24. But if the Roman mile actually was, what Polybius reckons it, $\frac{1}{3}$ of a ſtadium more than eight ſtadia, the length of the ſtadium turns out exactly 120 Roman paſſus, or 600 Roman feet. And ſince it was alſo 600 Greek feet, the Greek and the Roman foot muſt have been the very ſame.

DISSERTATION II.

On the FIRST MERIDIAN *of* PTOLEMY.

By M. de la ROCHETTE.

TO Dr. Vincent's queſtion concerning Ptolemy's longitude, I will try to anſwer in the following manner. If Ptolemy had determined the meridian of *Londinium* by the difference of time between that place and the meridian of Alexandria, as it is believed by Maginus and ſome others, I do not know how we could be juſtified in the reduction of his longitude, or, which is the ſame thing, in the augmentation of his degree; but theſe horary differences have been deduced from the graduation itſelf, which is the reſult only of itinerary diſtances ſhortened beyond meaſure by Ptolemy, in order to bring all the places within his ſtereographic projection; thence his degree of a great circle contains a fifth leſs of ſtadia than it ought to contain, *viz.* 500 inſtead of 600.

In his firſt Map of Europe, Ptolemy places London 20 degrees to the eaſt of the Fortunate Iſlands. In the account of the moſt remarkable places where celeſtial obſervations are ſuppoſed to have been made, the horary difference between London and Alexandria is 2 hours 40 minutes, or 40 degrees. Now, as Alexandria is 4 hours diſtant from the Fortunate Iſlands, the ſame longitude of 20 degrees eaſt of theſe iſles is again found for the meridian of London.

Longitude

	°	′	″
Longitude of London from Ferro, according to Ptolemy, - - -	20	0	0
According to Dr. Maſkelyne's Tables, -	17	40	13
Error of Ptolemy, - - -	2	19	47
	°	′	″
Longitude of London from Alexandria, according to Ptolemy, - -	40	0	0
According to the *connoiſſance des temps*, -	30	16	9
Error of Ptolemy, - - -	9	43	51
Which ought to be, - - -	10	13	51

if you follow the editions which place Alexandria in 40° 30′.

Ptolemy places the *Civitas Pariſiorum*, vel *Lucotecia*, in 23° 30′ from the Fortunate Iſles, or 3° 30′ eaſt of London, inſtead of 2° 25′ 37″ (Maſkelyne's difference of longitude between the two places). Now if we decreaſe by a fifth the difference expreſſed in the Alexandrian Geographer, we ſhall have 42′ to deduct, which will bring that interval to 2° 48′, or pretty near the true one. This I look upon as the longitude really aſſigned by Ptolemy between London and Paris.

The ſame operation made in reſpect to the longitude of London from Ferro, or the Fortunate Iſles, will bring London to 16° inſtead of 17° 40′ 13″, and then the error is only 1° 40 13″. The diſtance between the meridians of London and Alexandria is alſo reduced by that means to 32°, and the error in that immenſe ſpace becomes leſs than 2°.

The

The maps of Ptolemy, conſtructed upon the principle of his ſhort degree, have given the Mediterranean an extent of about 20° of longitude more than it ought to have, when in reality the author has not exceeded the true length by 4°, or thereabout. This enormous diſfiguration was followed and improved during 14 centuries. At laſt, the learned Gaſſendi (in the middle of the laſt century) wrote againſt ſuch an abſurdity; and, ſome years after, Guillaume de Liſle gave us a Mediterranean only 860 leagues long inſtead of 1160, which that ſea had always before that remarkable æra.

ADDITIONAL NOTES.

Page 153. Note 239.

AS Bundar-Lari on the eaſtern branch of the Indus, and Lari-bundar on the weſtern, appear to form a diſtinction in European accounts only, may it not be conjectured that both have a reference to Lari, or Loheri, a town belonging to the Doo-ab of Behker? and that Bundar, expreſſing a *port*, may be common to both branches, one forming the *eaſtern port* of Loheri and the other the *weſtern?* Loheri is either the ſame as Tekier, or elſe a place ſomewhat lower than Tekier, at the bottom of the Doo-ab of Behker, as Sekier, written Sucker, Sungar, and Sengueré, is at the top. This likewiſe affords ground for conjecture, that the Nulla Sunkra, or Sengueré, the eaſtern channel, may aſſume its name from conducting the navigation to Sunkra, Suckor, or Sekier.

Page 276. Note 270.

In the Hiſtory of the Diſcovery of India, by Manuel de Faria y Souſa (Engliſh edition 1694, vol. i. p. 27.), it appears, that previous to Gama's expedition, Peter de Covillam and Alfonſo de Payva had been ſent to Alexandria; and that Covillam had paſſed by the Red Sea to the coaſt of Malabar, who, though he never returned himſelf (being detained in Abyſſinia), yet ſent an account of his diſcoveries by Lamego, a Jew, to the Court of Liſbon. This is worthy of remark, as it proves that the Portugueſe purſued the diſcovery of India by the route firſt deſigned by Alexander, accom-

 pliſhed

pliſhed by the Ptolemies, completed by the Romans, and continued by the Arabian khalifs and ſoldans of Egypt. It was the trade of the Venetians to Alexandria, that the Portugueſe were endeavouring to rival, and finally deſtroyed by the diſcovery of the paſſage round the Cape of Good Hope.

Page 478.

Upon the diſtances of Icarus and Tylos it is to be remarked, that the account is taken, not from the Journal of Nearchus, but from Ptolemy and Ariſtobulus; it is poſſible, therefore, that both theſe authors reckoned by the Olympian ſtadium, and not the ſhort ſtadium of Nearchus. If this conjecture be allowable, it will double the diſtance of both iſlands, bringing Icarus not far from its true poſition, and giving the diſtance to Tylos correctly.

THE END.

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